EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	15999	(grating or hologra$6) near8 (array or grid or matrix or matrices)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 08:51
L2	16	("5739898" or "6291145" or "5847812" or "5851707" or "5902716").pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 09:05
L3	326	(photoresist or resist) near5 ((contrast adj2 enhanc$6) or nanocrystal or (semiconductor adj3 (particles or microparticles or nanoparticles)) or (quantum adj2 dot))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 09:10
L4	263	(photoresist or resist) with (((contrast adj2 enhanc$6) or nanocrystal or (semiconductor adj3 (particles or microparticles or nanoparticles)) or (quantum adj2 dot)) near5 (layer or film))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 09:11
L5	321	(photoresist or resist) with (((contrast adj2 enhanc$6) or nanocrystal or (semiconductor adj3 (particles or microparticles or nanoparticles)) or (quantum adj2 dot)) near10 (layer or film))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 09:11
L6	499	(photoresist or resist) with ((contrast adj2 enhanc$6) or nanocrystal or (semiconductor adj3 (particles or microparticles or nanoparticles)) or (quantum adj2 dot))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 09:53
L7	222	l4 and @ad<"20021209"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 09:16
L8	4690	(nanocrystal or (semiconductor adj3 (particles or microparticles or nanoparticles)) or (quantum adj2 dot)) near8 (layer or film)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 09:52
L9	24	l7 and l8	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 09:13

EAST Search History

L10	370	(photoresist or resist) with (contrast adj2 enhanc$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 09:16
L11	15811	(nanocrystal or (semiconductor adj3 (particles or microparticles or nanoparticles)) or (quantum adj2 dot))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 09:15
L12	2	l10 and l11	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 09:15
L13	316	l10 and @ad<"20021209"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 09:18
L14	195	(photoresist or resist) with ((contrast adj2 enhanc$6) adj5 (layer or film))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 10:54
L15	180	l14 and @ad<"20021209"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 10:43
L16	180	l15 and ((contrast adj2 enhanc$6) adj5 (layer or film))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 09:50
L17	1	l15 and ((transient or reversible) near5 ((contrast adj2 enhanc$6) adj5 (layer or film)))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 09:51
L18	2	l15 and ((transient or reversible) with ((contrast adj2 enhanc$6) adj5 (layer or film)))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 09:51

EAST Search History

L19	547	(nanocrystal or (semiconductor adj3 (particles or microparticles or nanoparticles)) or (quantum adj2 dot)) same ((polymer or polymeric) near5 (dispers$6 or matrix or matrices or binder))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 10:34
L20	771	(photoresist or resist) same ((contrast adj2 enhanc$6) or nanocrystal or (semiconductor adj3 (particles or microparticles or nanoparticles)) or (quantum adj2 dot))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 09:54
L21	28	l19 and l20	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 10:27
L22	7	us-20040150865-$.did. or us-20020182541-$.did. or us-20040152011-$.did. or "6440637". pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 10:32
L23	3196	(cucl or cubr or cui or agcl or agbr or agi or cao or mgo or zns or hgs or znse or cds or cdse or cdte or hgte or "pbs" or bn or GaN or GaSb or InP or InAs or SiGe or hgI$6 or pbi$6 or alas or alp or alsb) same ((polymer or polymeric) near5 (dispers$6 or matrix or matrices or binder))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 10:42
L24	224780	(photoresist or resist) near5 (layer or film)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 10:42
L25	4560	(cucl or cubr or cui or agcl or agbr or agi or cao or mgo or zns or hgs or znse or cds or cdse or cdte or hgte or "pbs" or bn or GaN or GaSb or InP or InAs or SiGe or hgI$6 or pbi$6 or alas or alp or alsb) same ((polymer or polymeric) near5 (dispers$6 or matrix or matrices or binder or glass))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 10:42
L26	4613	(cucl or cubr or cui or agcl or agbr or agi or cao or mgo or zns or hgs or znse or cds or cdse or cdte or hgte or "pbs" or bn or GaN or GaSb or InP or InAs or SiGe or hgI$6 or pbi$6 or alas or alp or alsb) same ((polymer or polymeric) near5 (dispers$6 or matrix or matrices or binder or glass$2))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 10:43

EAST Search History

L27	94	l23 and l24	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 10:45
L28	44	l27 and @ad<"20021209"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 10:46
L29	3196	l23 and l26	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 10:45
L30	205	l24 and l26	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 10:45
L31	110	l30 and @ad<"20021209"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 10:46
L32	66	l31 not l28	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 10:54
L33	6	(photoresist or resist) with ((superresolution or "super resolution") adj5 (layer or film))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 11:00
L34	16	(photoresist or resist) same ((superresolution or "super resolution") adj5 (layer or film))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 11:00
L35	10	l34 not l33	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/07 11:00

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NEWS 1		Web Page URLs for STN Seminar Schedule - N. America
NEWS 2	JAN 08	CHEMLIST enhanced with New Zealand Inventory of Chemicals
NEWS 3	JAN 16	CA/CAplus Company Name Thesaurus enhanced and reloaded
NEWS 4	JAN 16	IPC version 2007.01 thesaurus available on STN
NEWS 5	JAN 16	WPIDS/WPINDEX/WPIX enhanced with IPC 8 reclassification data
NEWS 6	JAN 22	CA/CAplus updated with revised CAS roles
NEWS 7	JAN 22	CA/CAplus enhanced with patent applications from India
NEWS 8	JAN 29	PHAR reloaded with new search and display fields
NEWS 9	JAN 29	CAS Registry Number crossover limit increased to 300,000 in multiple databases
NEWS 10	FEB 15	PATDPASPC enhanced with Drug Approval numbers
NEWS 11	FEB 15	RUSSIAPAT enhanced with pre-1994 records
NEWS 12	FEB 23	KOREAPAT enhanced with IPC 8 features and functionality
NEWS 13	FEB 26	MEDLINE reloaded with enhancements
NEWS 14	FEB 26	EMBASE enhanced with Clinical Trial Number field
NEWS 15	FEB 26	TOXCENTER enhanced with reloaded MEDLINE
NEWS 16	FEB 26	IFICDB/IFIPAT/IFIUDB reloaded with enhancements
NEWS 17	FEB 26	CAS Registry Number crossover limit increased from 10,000 to 300,000 in multiple databases
NEWS 18	MAR 15	WPIDS/WPIX enhanced with new FRAGHITSTR display format
NEWS 19	MAR 16	CASREACT coverage extended
NEWS 20	MAR 20	MARPAT now updated daily
NEWS 21	MAR 22	LWPI reloaded
NEWS 22	MAR 30	RDISCLOSURE reloaded with enhancements
NEWS 23	APR 02	JICST-EPLUS removed from database clusters and STN
NEWS 24	APR 30	GENBANK reloaded and enhanced with Genome Project ID field
NEWS 25	APR 30	CHEMCATS enhanced with 1.2 million new records
NEWS 26	APR 30	CA/CAplus enhanced with 1870-1889 U.S. patent records
NEWS 27	APR 30	INPADOC replaced by INPADOCDB on STN
NEWS 28	MAY 01	New CAS web site launched

NEWS EXPRESS NOVEMBER 10 CURRENT WINDOWS VERSION IS V8.01c, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 25 SEPTEMBER 2006.

NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS LOGIN	Welcome Banner and News Items
NEWS IPC8	For general information regarding STN implementation of IPC 8

Enter NEWS followed by the item number or name to see news on that specific topic.

* * * * * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 12:21:27 ON 07 MAY 2007

=> file caplus
COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION
FULL ESTIMATED COST | 0.21 | 0.21

FILE 'CAPLUS' ENTERED AT 12:21:41 ON 07 MAY 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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FILE LAST UPDATED: 6 May 2007 (20070506/ED)

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=> s (particle or particulate or nanopartic? or micropartic? or nanocrystal? or microcrystal?)
745052 PARTICLE
819480 PARTICLES
1242108 PARTICLE
(PARTICLE OR PARTICLES)
106794 PARTICULATE
21695 PARTICULATES
117526 PARTICULATE
(PARTICULATE OR PARTICULATES)
83568 NANOPARTIC?
21440 MICROPARTIC?
38092 NANOCRYSTAL?
25424 NANOCRYST
12 NANOCRYSTS
25425 NANOCRYST
(NANOCRYST OR NANOCRYSTS)
1555 NANOCRYSTN
2 NANOCRYSTNS
1556 NANOCRYSTN
(NANOCRYSTN OR NANOCRYSTNS)
259 NANOCRYSTD
14 NANOCRYSTG
45998 NANOCRYSTAL?
(NANOCRYSTAL? OR NANOCRYST OR NANOCRYSTN OR NANOCRYSTD OR NANOCRYSTG)
17483 MICROCRYSTAL?
29058 MICROCRYST
44 MICROCRYSTS
29090 MICROCRYST
(MICROCRYST OR MICROCRYSTS)
643 MICROCRYSTN
2 MICROCRYSTNS

```
          643 MICROCRYSTN
                (MICROCRYSTN OR MICROCRYSTNS)
           75 MICROCRYSTD
           12 MICROCRYSTG
        41092 MICROCRYSTAL?
                (MICROCRYSTAL? OR MICROCRYST OR MICROCRYSTN OR MICROCRYSTD OR
                MICROCRYSTG)
L1    1424990 (PARTICLE OR PARTICULATE OR NANOPARTIC? OR MICROPARTIC? OR NANOC
              RYSTAL? OR MICROCRYSTAL?)

=> s (cucl or cubr or cui or agcl or agbr or agi or cao or mgo or zns or hgs or
znse or cds or cdse or cdte or hgte or "pbs" or bn or GaN or GaSb or InP or InAs or
SiGe or hgI6 or pbi6 or alas or alp or alsb) same ((polymer or polymeric) near5
(dispers6 or matrix or matrices or binder))
6 IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> s (cucl or cubr or cui or agcl or agbr or agi or cao or mgo or zns or hgs or
znse or cds or cdse or cdte or hgte or "pbs" or bn or GaN or GaSb or InP or InAs or
SiGe or hgI? or pbi? or alas or alp or alsb)
         15647 CUCL
             3 CUCLS
         15650 CUCL
                 (CUCL OR CUCLS)
          4790 CUBR
          7938 CUI
            18 CUIS
          7955 CUI
                 (CUI OR CUIS)
         26496 AGCL
             2 AGCLS
         26497 AGCL
                 (AGCL OR AGCLS)
         11766 AGBR
             1 AGBRS
         11766 AGBR
                 (AGBR OR AGBRS)
         11535 AGI
            16 AGIS
         11547 AGI
                 (AGI OR AGIS)
        136897 CAO
            67 CAOS
        136948 CAO
                 (CAO OR CAOS)
        148759 MGO
            11 MGOS
        148769 MGO
                 (MGO OR MGOS)
         28220 ZNS
            56 ZNSES
         28270 ZNS
                 (ZNS OR ZNSES)
          3352 HGS
            13 HGSES
          3365 HGS
                 (HGS OR HGSES)
         14901 ZNSE
            56 ZNSES
         14924 ZNSE
                 (ZNSE OR ZNSES)
         31186 CDS
            46 CDSES
```

```
        31218 CDS
                (CDS OR CDSES)
        10721 CDSE
           46 CDSES
        10757 CDSE
                (CDSE OR CDSES)
        17108 CDTE
           12 CDTES
        17112 CDTE
                (CDTE OR CDTES)
         3082 HGTE
            6 HGTES
         3085 HGTE
                (HGTE OR HGTES)
        17060 "PBS"
            6 "PBSES"
        17065 "PBS"
                ("PBS" OR "PBSES")
        27960 BN
          263 BNS
        28186 BN
                (BN OR BNS)
        30669 GAN
          496 GANS
        31158 GAN
                (GAN OR GANS)
         7170 GASB
        35491 INP
           25 INPS
        35511 INP
                (INP OR INPS)
        15289 INAS
         8612 SIGE
            4 SIGES
         8616 SIGE
                (SIGE OR SIGES)
         5849 HGI?
         6513 PBI?
        10376 ALAS
         6799 ALP
         4737 ALPS
        11423 ALP
                (ALP OR ALPS)
         2147 ALSB
L2     549709 (CUCL OR CUBR OR CUI OR AGCL OR AGBR OR AGI OR CAO OR MGO OR
               ZNS OR HGS OR ZNSE OR CDS OR CDSE OR CDTE OR HGTE OR "PBS" OR
              BN OR GAN OR GASB OR INP OR INAS OR SIGE OR HGI? OR PBI? OR ALAS
              OR ALP OR ALSB)

=> s (l2 or semiconduc?)(10a)l1
       630215 SEMICONDUC?
         2599 SEMICOND
           19 SEMICONDS
         2612 SEMICOND
                (SEMICOND OR SEMICONDS)
       630925 SEMICONDUC?
                (SEMICONDUC? OR SEMICOND)
L3      32981 (L2 OR SEMICONDUC?)(10A)L1

=> s l3 and (resist or photoresist)
        59470 RESIST
        36719 RESISTS
        74584 RESIST
                (RESIST OR RESISTS)
        48180 PHOTORESIST
```

```
         35384 PHOTORESISTS
         56882 PHOTORESIST
                 (PHOTORESIST OR PHOTORESISTS)
L4         260 L3 AND (RESIST OR PHOTORESIST)

=> s (l2 or semiconduc?)(10a)(polymer? or binder or matrix or matrices or resin or
dispers?)
        630215 SEMICONDUC?
          2599 SEMICOND
            19 SEMICONDS
          2612 SEMICOND
                 (SEMICOND OR SEMICONDS)
        630925 SEMICONDUC?
                 (SEMICONDUC? OR SEMICOND)
       1972399 POLYMER?
         88874 POLYMD
         88874 POLYMD
                 (POLYMD)
         33841 POLYMG
        349331 POLYMN
          9244 POLYMNS
        350545 POLYMN
                 (POLYMN OR POLYMNS)
       2043018 POLYMER?
                 (POLYMER? OR POLYMD OR POLYMG OR POLYMN)
        185428 BINDER
         88487 BINDERS
        216890 BINDER
                 (BINDER OR BINDERS)
        523804 MATRIX
         69028 MATRIXES
          9601 MATRICES
        559809 MATRIX
                 (MATRIX OR MATRIXES OR MATRICES)
          9601 MATRICES
        629629 RESIN
        413043 RESINS
        770843 RESIN
                 (RESIN OR RESINS)
        665556 DISPERS?
L5       49643 (L2 OR SEMICONDUC?)(10A)(POLYMER? OR BINDER OR MATRIX OR MATRICE
               S OR RESIN OR DISPERS?)

=> l4 and l5
L4 IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> s l4 and l5
L6           47 L4 AND L5

=> d all 1-45

L6   ANSWER 1 OF 47  CAPLUS  COPYRIGHT 2007 ACS on STN
AN   2007:250301  CAPLUS
DN   146:306946
ED   Entered STN:  08 Mar 2007
TI   Thin film transistor having a nano semiconductor sheet and method of
     manufacturing the same
IN   Lee, Sang-Min; Yang, Nam-Choul
PA   Samsung Sdi Co., Ltd., S. Korea
SO   Eur. Pat. Appl., 18pp.
     CODEN: EPXXDW
DT   Patent
```

LA English
CC 76-3 (Electric Phenomena)
Section cross-reference(s): 48, 74

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1760791	A2	20070307	EP 2006-254495	20060829
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, YU				
	US 2007052024	A1	20070308	US 2006-510454	20060826
PRAI	KR 2005-80021	A	20050830		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 1760791	IPCI	H01L0029-786 [I,A]; H01L0029-66 [I,C*]
US 2007052024	IPCI	H01L0027-12 [I,A]; H01L0021-84 [I,A]; H01L0021-70 [I,C*]
	NCL	257/347.000; 438/149.000; 977/762.000; 977/767.000; 257/E29.070

AB Provided are a nano semiconductor sheet, a thin film transistor (TFT) using the nano semiconductor sheet, and a flat panel display using nano semiconductor sheet. The nano semiconductor sheet has excellent characteristics, can be manufactured at room temperature, and has good flexibility.

The nano semiconductor sheet includes: a 1st film and a 2nd film disposed on at least one side of or inside of the 1st film, and includes a plurality of nanoparticles arranged substantially in parallel to each other. Provided are a method of manufacturing a nano semiconductor sheet and methods of manufacturing a TFT and a flat panel display using the nano semiconductor sheet. The method of manufacturing a nano semiconductor sheet, includes: forming 1st polymer micro-fibers having a plurality of nano particles arranged substantially in parallel; preparing a 1st film; and arranging a plurality of the 1st micro-fibers on at least one side of or inside of the 1st film.

ST TFT semiconductor nanostructure sheet fabrication flat panel display

IT Dielectric films
Electric contacts
Gate contacts
Nanocomposites
Nanoparticles
Nanowires
Photolithography
Photoresists
Semiconductor nanostructures
Thin film transistors
(TFT with nanostructure semiconductor sheet and its fabrication)

IT Polymers, processes
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); TEM (Technical or engineered material use); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(TFT with nanostructure semiconductor sheet and its fabrication)

IT Optical imaging devices
(flat panels; TFT with nanostructure semiconductor sheet and its fabrication)

IT Synthetic fibers
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(microfibers; TFT with nanostructure semiconductor sheet and its fabrication)

IT Bands and Ribbons
Nanostructures
(nanoribbons; TFT with nanostructure semiconductor sheet and its

fabrication)
IT Nanostructures
(nanorods; TFT with nanostructure semiconductor sheet and its fabrication)
IT Textiles
(nanowoven; TFT with nanostructure semiconductor sheet and its fabrication)
IT Etching
(selective; TFT with nanostructure semiconductor sheet and its fabrication)

L6 ANSWER 2 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2007:92560 CAPLUS
DN 146:369856
ED Entered STN: 28 Jan 2007
TI A facile size-control method of CdS nanoparticles in-situ synthesized in polymer matrix by adjusting ratio of acidic acid with metallic complex in acrylate photoresist resin
AU Sun, Zheng-Bin; Chen, Wei-Qiang; Dong, Xian-Zi; Duan, Xuan-Ming
CS Laboratory of Organic NanoPhotonics, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Haidian, Beijing, 100080, Peop. Rep. China
SO Chemistry Letters (2007), 36(1), 156-157
CODEN: CMLTAG; ISSN: 0366-7022
PB Chemical Society of Japan
DT Journal
LA English
CC 76-3 (Electric Phenomena)
Section cross-reference(s): 73
AB A facile method with efficient control of nanoparticles size in polymer matrix by combination of in situ synthesis and photopolymn. is proposed and studied. The photoluminescence of the CdS-polymer nanocomposites was easily tuned by adjusting the molar ratio of acrylic acid to cadmium acrylate in designed photoresist resins.
ST cadmium sulfide nanoparticle polymer matrix acrylate photoresist
IT Catalysts
(photochem.; size-control method of CdS nanoparticles synthesized in polymer matrix by adjusting ratio of acidic acid with metallic complex in acrylate photoresist resin)
IT Fluorescence
Luminescence
Nanocomposites
Nanoparticles
Particle size
Transmission electron microscopy
UV and visible spectra
(size-control method of CdS nanoparticles synthesized in polymer matrix by adjusting ratio of acidic acid with metallic complex in acrylate photoresist resin)
IT Polymers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(size-control method of CdS nanoparticles synthesized in polymer matrix by adjusting ratio of acidic acid with metallic complex in acrylate photoresist resin)
IT 1306-23-6P, Cadmium sulfide (CdS), properties
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(size-control method of CdS nanoparticles synthesized in polymer matrix by adjusting ratio of acidic acid with metallic complex in acrylate photoresist resin)

IT 79-41-4, Methacrylic acid, reactions 24345-60-6, Cadmium methacrylate
29570-58-9, Dipentaerythritol hexaacrylate 119313-12-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(size-control method of CdS nanoparticles
synthesized in polymer matrix by adjusting ratio of
acidic acid with metallic complex in acrylate photoresist
resin)

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
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L6 ANSWER 3 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2007:428 CAPLUS
DN 146:410940
ED Entered STN: 01 Jan 2007
TI Nanopositioning of colloidal nanocrystal emitters by means of photolithography and e-beam lithography
AU Martiradonna, L.; Stomeo, T.; Carbone, L.; Morello, G.; Salhi, A.; De Giorgi, M.; Cingolani, R.; De Vittorio, M.
CS National Nanotechnology Laboratory of CNR-INFM, Scuola superiore ISUFI - University of Lecce, Lecce, 73100, Italy
SO Physica Status Solidi B: Basic Solid State Physics (2006), 243(15), 3972-3975
CODEN: PSSBBD; ISSN: 0370-1972
PB Wiley-VCH Verlag GmbH
DT Journal
LA English
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 36
AB The authors propose a new technique for the localization of colloidal nanocrystals (NCs) by directly exposing a polymer/NCs blend to a lithog. process. Approach relies on the dispersion of CdSe/ZnS core/shell NCs into a layer of photo- or electro-sensitive resist, which is subsequently patterned by photolithog. or electron beam lithog. (EBL), resp. The authors have characterized the behavior of both pos. (PMMA) and neg. (SU-8 epoxy resin) resists as polymeric hosts for colloidal nanoemitters. The morphol. and optical anal. of the processed samples showed the successful localization of the colloidal NCs. This technique enables the fabrication of 2 or 3 dimensional active photonic crystals devices or distributed feed-back lasers based on colloidal nanocrystal emitters with sub-micron resolution, without recurring to etching processes. Also, by decreasing the concentration of nanocrystals in the blend and by isolating very small regions of the

layer, realization of single NC/photon emitters can be enabled. As a further advantage, the possibility to re-align subsequent lithog. steps enables the localization of different colloidal nanoemitters with micron- and nanometer resolution, thus merging red, green and blue emission on the same substrate.

ST cadmium selenide core shell zinc sulfide emitter polymer lithog; photonic crystal cadmium selenide core shell zinc sulfide polymer; luminescence cadmium selenide core shell zinc sulfide polymer lithog

IT Electron beam lithography
Nanocomposites
Nanocrystals
Photolithography
(nanopositioning of colloidal CdSe/ZnS core/shell nanocrystal emitters in PMMA or SU-8 by means of photolithog. and e-beam lithog.)

IT Photonic crystals
(nanopositioning of colloidal CdSe/ZnS core/shell nanocrystal emitters in PMMA or SU-8 by means of photolithog. and e-beam lithog. for)

IT Luminescence
(of colloidal CdSe/ZnS core/shell nanocrystal emitters in PMMA)

IT 1306-24-7, Cadmium selenide, properties 1314-98-3, Zinc sulfide (ZnS), properties
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(nanopositioning of colloidal CdSe/ZnS core/shell nanocrystal emitters in PMMA or SU-8 by means of photolithog. and e-beam lithog.)

IT 9011-14-7, PMMA
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(nanopositioning of colloidal CdSe/ZnS core/shell nanocrystal emitters in PMMA or SU-8 by means of photolithog. and e-beam lithog.)

IT 221273-01-4, SU 8 (photoresist)
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(nanopositioning of colloidal CdSe/ZnS core/shell nanocrystal emitters in PMMA or SU-8 by means of photolithog. and e-beam lithog.)

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L6 ANSWER 4 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2006:1147739 CAPLUS

DN 145:489940

ED Entered STN: 02 Nov 2006

TI Dendritic polymers with enhanced amplification and interior functionality for use in various applications, such as drug delivery, transfection, and diagnostics

IN Tomalia, Donald A.; Swanson, Douglas R.; Huang, Baohua; Pulgam, Verra Reddy; Heinzelmann, Joseph R.; Svenson, Sonke; Reyna, Lori A.; Zhuravel, Michael A.; Chauhan, Abhay Singh; Demattei, Cordell R.

PA Dendritic Nanotechnologies, Inc., USA

SO PCT Int. Appl., 306pp.
CODEN: PIXXD2

DT Patent

LA English

CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 63

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2006115547	A2	20061102	WO 2005-US47635	20051221
	WO 2006115547	A8	20070215		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	WO 2006065266	A2	20060622	WO 2005-US13864	20050420
	WO 2006065266	A3	20060914		
	WO 2006065266	A9	20061221		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	AU 2005331023	A1	20061102	AU 2005-331023	20051221
PRAI	WO 2005-US13864	A	20050420		
	US 2004-563659P	P	20040420		
	WO 2005-US47635	W	20051221		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2006115547	IPCI	A61K0048-00 [I,A]; A61K0031-785 [I,A]; A61K0048-00 [I,C]; A61K0031-74 [I,C]; A61K0048-00 [I,A]; A61K0031-785 [I,A]
WO 2006065266	IPCI	C08F0020-02 [I,A]; C08F0020-00 [I,C*]; C08J0003-00 [I,C]; C08J0009-00 [I,C]; C08K0009-00 [I,C]; C08J0003-00 [I,A]; C08J0009-32 [I,A]; C08J0009-40 [I,A]; C08K0009-00 [I,A]; C08J0003-00 [I,C]; C08J0009-00 [I,C]; C08K0009-00 [I,C]; C08J0003-00 [I,A]; C08J0009-32 [I,A]; C08J0009-40 [I,A]; C08K0009-00 [I,A]
	IPCR	C08F0020-00 [I,C]; C08F0020-02 [I,A]
AU 2005331023	IPCI	A61K0048-00 [I,C]; A61K0031-74 [I,C]; A61K0048-00

[I,A]; A61K0031-785 [I,A]

AB Dendritic polymers with enhanced amplification and interior functionality for use in deemulsifiers, wet strength agents, proton scavengers, calibration stds., size selective membranes, paint additives, drug delivery, transfection, and diagnostics are prepared by use of fast, reactive ring-opening chemical combined with the use of branch cell reagents in a controlled way to rapidly and precisely build dendritic structures, generation by generation, with cleaner chemical, often single products, lower excesses of reagents, lower levels of dilution, and lower cost.

ST polymer dendritic prepn; dendrimer drug delivery transfection diagnostics

IT Inks
(Electronic; dendritic polymers with enhanced amplification and interior functionality for use in electronic inks)

IT Polyethers, preparation
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(azide group-containing, dendritic; dendritic polymers with enhanced amplification and interior functionality for use in eukaryotic cells transfecting)

IT Ions
(carrier; dendritic polymers with enhanced amplification and interior functionality for use as metal ion carriers)

IT Drug delivery systems
(carriers; dendritic polymers with enhanced amplification and interior functionality for use in various applications, such as deemulsifiers, drug delivery, transfection, and diagnostics)

IT Medical goods
(catheters; dendritic polymers with enhanced amplification and interior functionality for use in catheters)

IT Dental materials and appliances
(composites; dendritic polymers with enhanced amplification and interior functionality for use in dental composition)

IT Catalyst supports
(dendritic polymers with enhanced amplification and interior functionality for use as catalyst carriers)

IT Quantum dot devices
(dendritic polymers with enhanced amplification and interior functionality for use as quantum dots)

IT Adhesives
(dendritic polymers with enhanced amplification and interior functionality for use in adhesives)

IT Antibacterial agents
(dendritic polymers with enhanced amplification and interior functionality for use in antibacterials)

IT Biomarkers
(dendritic polymers with enhanced amplification and interior functionality for use in biomarkers)

IT Carpets
(dendritic polymers with enhanced amplification and interior functionality for use in carpets)

IT Ceramics
(dendritic polymers with enhanced amplification and interior functionality for use in ceramics)

IT Textiles
(dendritic polymers with enhanced amplification and interior functionality for use in cloth)

IT Coating materials
(dendritic polymers with enhanced amplification and interior functionality for use in coatings)

IT Cosmetics
(dendritic polymers with enhanced amplification and interior functionality for use in cosmetics)

IT Deodorants
(dendritic polymers with enhanced amplification and interior functionality for use in deodorants)

IT Disinfectants
(dendritic polymers with enhanced amplification and interior functionality for use in disinfectants)
IT Optical imaging devices
(dendritic polymers with enhanced amplification and interior functionality for use in displays)
IT Electrodes
(dendritic polymers with enhanced amplification and interior functionality for use in electrodes)
IT Energy storage
(dendritic polymers with enhanced amplification and interior functionality for use in energy storage)
IT Eukaryota
(dendritic polymers with enhanced amplification and interior functionality for use in eukaryotic cells transfecting)
IT Fiber optics
(dendritic polymers with enhanced amplification and interior functionality for use in fiber optics)
IT Concrete
(dendritic polymers with enhanced amplification and interior functionality for use in fiberglass)
IT Glass fibers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(dendritic polymers with enhanced amplification and interior functionality for use in fiberglass)
IT Fibers
RL: TEM (Technical or engineered material use); USES (Uses)
(dendritic polymers with enhanced amplification and interior functionality for use in fibers)
IT Filtration
(dendritic polymers with enhanced amplification and interior functionality for use in filtration)
IT Flavoring materials
(dendritic polymers with enhanced amplification and interior functionality for use in flavorings)
IT Fuel cells
(dendritic polymers with enhanced amplification and interior functionality for use in fuel cells)
IT Glass, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(dendritic polymers with enhanced amplification and interior functionality for use in glass)
IT Electric insulators
(dendritic polymers with enhanced amplification and interior functionality for use in interlayer dielec.)
IT Latex
(dendritic polymers with enhanced amplification and interior functionality for use in latex)
IT Electroluminescent devices
(dendritic polymers with enhanced amplification and interior functionality for use in light emitting diodes)
IT Magnetic memory devices
(dendritic polymers with enhanced amplification and interior functionality for use in magnetic storage systems)
IT Medical goods
(dendritic polymers with enhanced amplification and interior functionality for use in medical devices)
IT Metals, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(dendritic polymers with enhanced amplification and interior functionality for use in metal)
IT Molecular electronics
(dendritic polymers with enhanced amplification and interior functionality for use in mol. electronics)
IT Paper

(dendritic polymers with enhanced amplification and interior functionality for use in papers)

IT Photonics
(dendritic polymers with enhanced amplification and interior functionality for use in photonics)

IT Photoresists
(dendritic polymers with enhanced amplification and interior functionality for use in photoresist)

IT Pigments, nonbiological
(dendritic polymers with enhanced amplification and interior functionality for use in pigments)

IT Rubber, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(dendritic polymers with enhanced amplification and interior functionality for use in rubber)

IT Sensors
(dendritic polymers with enhanced amplification and interior functionality for use in sensors)

IT Containers
(dendritic polymers with enhanced amplification and interior functionality for use in stones)

IT Stone (construction material)
RL: TEM (Technical or engineered material use); USES (Uses)
(dendritic polymers with enhanced amplification and interior functionality for use in stones)

IT Electrophotographic toners
(dendritic polymers with enhanced amplification and interior functionality for use in toners)

IT Transistors
(dendritic polymers with enhanced amplification and interior functionality for use in transistors)

IT Dendritic polymers
RL: IMF (Industrial manufacture); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(dendritic polymers with enhanced amplification and interior functionality for use in various applications, such as deemulsifiers, drug delivery, transfection, and diagnostics)

IT Waveguides
(dendritic polymers with enhanced amplification and interior functionality for use in waveguides)

IT Wood
(dendritic polymers with enhanced amplification and interior functionality for use in wood)

IT Encapsulants
(drug; dendritic polymers with enhanced amplification and interior functionality for use in various applications, such as deemulsifiers, drug delivery, transfection, and diagnostics)

IT Polyethers, preparation
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(epoxy, dendritic; dendritic polymers with enhanced amplification and interior functionality for use in eukaryotic cells transfecting)

IT Drug delivery systems
(implants; dendritic polymers with enhanced amplification and interior functionality for use in stones)

IT Absorbents
(microwave, IR; dendritic polymers with enhanced amplification and interior functionality for use in microwave or IR absorbers)

IT Particles
(paramagnetic, carrier; dendritic polymers with enhanced amplification and interior functionality for use as paramagnetic particles carriers)

IT Semiconductor materials
(particles carriers; dendritic polymers with enhanced amplification and interior functionality for use as

semiconductor particle carriers)
IT Polyamines
RL: IMF (Industrial manufacture); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(polyamide-, dendrimers; dendritic polymers with enhanced amplification and interior functionality for use in eukaryotic cells transfecting)
IT Polyethers, preparation
RL: IMF (Industrial manufacture); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(polyamide-, dendritic; dendritic polymers with enhanced amplification and interior functionality for use in eukaryotic cells transfecting)
IT Dendritic polymers
RL: IMF (Industrial manufacture); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(polyamide-polyamines; dendritic polymers with enhanced amplification and interior functionality for use in eukaryotic cells transfecting)
IT Polyamides, preparation
RL: IMF (Industrial manufacture); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(polyamine-, dendrimers; dendritic polymers with enhanced amplification and interior functionality for use in eukaryotic cells transfecting)
IT Polyesters, preparation
Polyethers, preparation
RL: IMF (Industrial manufacture); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(polyamine-, dendritic; dendritic polymers with enhanced amplification and interior functionality for use in eukaryotic cells transfecting)
IT Polyamines
Polythioethers
RL: IMF (Industrial manufacture); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(polyester-, dendritic; dendritic polymers with enhanced amplification and interior functionality for use in eukaryotic cells transfecting)
IT Epoxy resins, preparation
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(polyether-, dendritic; dendritic polymers with enhanced amplification and interior functionality for use in eukaryotic cells transfecting)
IT Polyamides, preparation
Polyamines
RL: IMF (Industrial manufacture); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(polyether-, dendritic; dendritic polymers with enhanced amplification and interior functionality for use in eukaryotic cells transfecting)
IT Polyesters, preparation
RL: IMF (Industrial manufacture); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(polythioether-, dendritic; dendritic polymers with enhanced amplification and interior functionality for use in eukaryotic cells transfecting)
IT Calibration
(size; dendritic polymers with enhanced amplification and interior functionality for use in size calibration)
IT Medical goods
(stents; dendritic polymers with enhanced amplification and interior functionality for use in stones)
IT Lithography

(submicron; dendritic polymers with enhanced amplification and interior functionality for use in nanolithog.)

IT Chromatography
(supports; dendritic polymers with enhanced amplification and interior functionality for use as supports in sepns.)

IT 7440-57-5, Gold, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(dendrimer core; dendritic polymers with enhanced amplification and interior functionality for use in various applications, such as deemulsifiers, drug delivery, transfection, and diagnostics)

IT 867178-38-9P, CyTE 807
RL: BSU (Biological study, unclassified); IMF (Industrial manufacture); BIOL (Biological study); PREP (Preparation)
(dendritic polymers with enhanced amplification and interior functionality for use in various applications, such as deemulsifiers, drug delivery, transfection, and diagnostics)

IT 757960-10-4, IR-806
RL: BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent)
(dendritic polymers with enhanced amplification and interior functionality for use in various applications, such as deemulsifiers, drug delivery, transfection, and diagnostics)

IT 80529-93-7
RL: DGN (Diagnostic use); BIOL (Biological study); USES (Uses)
(dendritic polymers with enhanced amplification and interior functionality for use in various applications, such as deemulsifiers, drug delivery, transfection, and diagnostics)

IT 893412-07-2P 914111-49-2P 914111-51-6P 914111-53-8P
RL: IMF (Industrial manufacture); PREP (Preparation)
(dendritic polymers with enhanced amplification and interior functionality for use in various applications, such as deemulsifiers, drug delivery, transfection, and diagnostics)

IT 120-43-4DP, reaction products with pentaerythritol tetraglycidyl ether and polyethylenimine 1471-18-7P, Pentaerythritol tetraallyl ether 3126-63-4DP, reaction products with polyethylenimine and Et piperazinecarboxylate 3126-63-4P, Pentaerythritol tetraglycidyl ether 9002-98-6DP, reaction products with pentaerythritol tetraglycidyl ether and Et piperazinecarboxylate 13236-00-5P, Pentaerythritol triglycidyl ether 25805-17-8DP, hydrolyzed, end-caped with dendritic poly(etherhydroxylamine) 49859-90-7P, 1-Imidazolidineethanamine 133466-62-3P 148193-00-4P, Bis(2-piperazinoethyl) disulfide 723342-61-8P 893411-65-9P 893411-66-0P 893411-67-1P 893411-68-2P 893411-69-3P 893411-71-7P 893411-72-8DP, reaction products with PAMAM and 1-(aminoethyl)piperazine 893411-73-9P 893411-74-0P 893411-75-1P 893411-76-2P 893411-77-3P 893411-78-4P 893411-79-5P 893411-80-8P 893411-81-9P 893411-82-0P 893411-83-1P 893411-84-2P 893411-85-3P 893411-86-4P 893411-87-5P 893411-88-6P 893411-89-7P 893411-90-0P 893411-91-1P 893411-92-2P 893411-93-3P 893411-94-4P 893411-95-5P 893411-96-6P 893411-97-7P 893411-98-8P 893411-99-9P 893412-00-5P 893412-01-6P 893412-02-7P 893412-03-8P 893412-04-9P 893412-05-0P 893412-06-1P 893412-08-3P 893412-09-4P 893412-10-7P 893412-11-8P 893412-12-9P 893412-13-0P 893412-14-1P 893412-15-2P 893412-16-3P 893412-18-5P 893412-21-0P 893412-22-1P 893412-23-2P 911415-47-9P 914111-39-0P 914111-40-3P 914111-41-4P 914111-43-6P 914111-44-7P 914111-46-9P 914111-47-0P 914111-48-1P 914111-50-5P 914111-54-9P 914111-55-0P 914111-56-1P 914111-57-2P 914111-58-3P 914111-59-4P 914111-60-7P 914111-61-8P 914111-63-0P 914111-64-1P 914111-65-2P 914111-66-3P 914111-67-4P 914111-69-6P 914111-70-9P 914111-71-0P 914111-72-1P 914111-73-2P 914111-74-3P 914111-78-7P 914111-79-8P 914111-80-1P 914111-81-2P 914111-82-3P 914111-83-4P 914111-84-5P 914111-86-7P 914111-87-8DP, reaction products with gold nanoparticles 914301-40-9P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(dendritic polymers with enhanced amplification and interior

functionality for use in various applications, such as deemulsifiers, drug delivery, transfection, and diagnostics)

IT 130920-81-9P 893411-77-3DP, reaction products with Et oxazoline homopolymer 893411-79-5DP, reaction products with glycidol 914111-62-9P 914111-68-5P 914111-75-4DP, reaction products with dendrimer containing Et ester surface group and 1-(2-aminoethyl)piperazine 914111-76-5P 914111-77-6P 914301-79-4P 914301-80-7P
RL: IMF (Industrial manufacture); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(dendritic polymers with enhanced amplification and interior functionality for use in various applications, such as deemulsifiers, drug delivery, transfection, and diagnostics)

IT 50-00-0, Formaldehyde, reactions 62-56-6, Thiourea, reactions 75-55-8, 2-Methylaziridine 96-33-3, Methyl acrylate 103-49-1, Dibenzylamine 106-89-8, Epichlorohydrin, reactions 106-95-6, Allyl bromide, reactions 106-96-7, Propargyl bromide 107-15-3, Ethylene diamine, reactions 107-96-0, 3-Mercaptopropionic acid 108-10-1, 4-Methyl-2-pentanone 108-24-7, Acetic anhydride 110-85-0, Piperazine, reactions 111-40-0, Diethylenetriamine 111-41-1, (2-Hydroxyethyl) ethylenediamine 111-42-2, Diethanolamine, reactions 115-77-5, Pentaerythritol, reactions 124-02-7, Diallyl amine 124-09-4, Hexamethylenediamine, reactions 140-31-8, N-(2-Aminoethyl)piperazine 140-31-8D, 1-(2-Aminoethyl) piperazine, reaction products with dendrimers 141-43-5, Ethanolamine, reactions 420-12-2, Ethylene sulfide 534-26-9, 2-Methyl-2-imidazoline 628-87-5, Iminodiacetonitrile 762-42-5, Dimethylacetylene dicarboxylate 937-14-4, m-Chloroperoxy benzoic acid 1471-17-6, Pentaerythritol triallyl ether 2095-03-6, Bis(4-glycidyloxyphenyl)methane 2451-62-9, Tris(2,3-Epoxypropyl)isocyanurate 3454-29-3, Trimethylolpropane triglycidyl ether 4097-89-6, Tris(2-aminoethyl)amine 6290-05-7, Diethyl iminodiacetate 7681-57-4, Sodium meta-Bisulfite 10471-78-0 10595-60-5 14002-32-5, Tris(hydroxymethylamine)(14283-07-9, Lithium tetrafluoroborate 15625-89-5, Trimethylolpropane triacrylate 17261-34-6 17557-23-2, Neopentyl glycol diglycidyl ether 26628-22-8, Sodium azide 28768-32-3 66072-38-6, Triphenylolmethane triglycidylether 67186-35-0, Acryloxymethyltrimethylsilane 101567-38-8 139611-97-5 566916-00-5 893412-17-4 914111-42-5 914111-45-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(dendritic polymers with enhanced amplification and interior functionality for use in various applications, such as deemulsifiers, drug delivery, transfection, and diagnostics)

IT 53-86-1, Indomethacin 15663-27-1, Cisplatin
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(dendritic polymers with enhanced amplification and interior functionality for use in various applications, such as deemulsifiers, drug delivery, transfection, and diagnostics)

IT 26937-01-9D, PAMAM, reaction products with dendrimer containing Et ester surface groups and 1-(aminoethyl)piperazine
RL: RCT (Reactant); RACT (Reactant or reagent)
(dendritic; dendritic polymers with enhanced amplification and interior functionality for use in various applications, such as deemulsifiers, drug delivery, transfection, and diagnostics)

IT 914111-85-6P
RL: IMF (Industrial manufacture); PREP (Preparation)
(hyper-branched; dendritic polymers with enhanced amplification and interior functionality for use in various applications, such as deemulsifiers, drug delivery, transfection, and diagnostics)

L6 ANSWER 5 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:1059304 CAPLUS
DN 146:285396
ED Entered STN: 12 Oct 2006
TI Semiconductor manufacturing apparatus using vacuum test apparatus for checking vacuum adsorption degree of reticle
IN Joo, Byoung Ha

PA Samsung Electronics Co., Ltd., S. Korea
SO Repub. Korean Kongkae Taeho Kongbo, No pp. given
CODEN: KRXXA7
DT Patent
LA Korean
CC 76-2 (Electric Phenomena)
Section cross-reference(s): 74
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI KR 2006015787	A	20060221	KR 2004-64143	20040816
PRAI KR 2004-64143		20040816		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
KR 2006015787	IPCI	H01L0021-027 [I,A]; H01L0021-02 [I,C*]

AB A bit of semiconductor manufacturing equipment is provided to check previously particles or polymers at an edge portion of a reticle by detecting exactly the degree of vacuum adsorption of the reticle using a vacuum test apparatus A bit of semiconductor manufacturing equipment includes an exposure apparatus and a vacuum test apparatus The exposure apparatus is composed of a reticle holder for adsorbing a reticle, wherein the reticle is used for exposing selectively a photoresist layer of a wafer to light. The vacuum test apparatus is formed like the same structure as the reticle holder of the exposure apparatus in order to detect exactly the degree of vacuum adsorption of the reticle. The vacuum test apparatus includes a vacuum sensor.
ST semiconductor manuf app vacuum adsorption testing
IT Semiconductor materials
(manufacture apparatus; semiconductor manufacturing apparatus using vacuum test apparatus for checking vacuum adsorption degree of reticle)
IT Adsorption
Photoresists
(semiconductor manufacturing apparatus using vacuum test apparatus for checking vacuum adsorption degree of reticle)
IT Polymers, processes
RL: REM (Removal or disposal); PROC (Process)
(semiconductor manufacturing apparatus using vacuum test apparatus for checking vacuum adsorption degree of reticle)
IT Sensors
(vacuum; semiconductor manufacturing apparatus using vacuum test apparatus for checking vacuum adsorption degree of reticle)

L6 ANSWER 6 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:1037195 CAPLUS
DN 145:408614
ED Entered STN: 06 Oct 2006
TI Method for semiconductor device fabrication
IN Onishi, Hideto
PA Sanken Electric Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7pp.
CODEN: JKXXAF
DT Patent
LA Japanese
CC 76-3 (Electric Phenomena)
Section cross-reference(s): 74
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2006269522	A	20061005	JP 2005-81996	20050322

PRAI JP 2005-81996 20050322

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2006269522	IPCI	H01L0021-322 [I,A]; H01L0021-02 [I,C*]; H01L0029-739 [I,A]; H01L0029-78 [I,A]; H01L0029-861 [I,A]; H01L0029-66 [I,C*]

AB The title method includes the steps of: forming a patterned resist resin layer containing radiation-blocking particles on a semiconductor substrate; irradiating the substrate through the resist layer for controlling carrier life-time; and removing the unnecessary part of the resist layer from the substrate. The method provides resist layers of any thickness on any position.

ST semiconductor device fabrication irradn mask substrate

IT Radiation
Resists
Semiconductor device fabrication
(method for semiconductor device fabrication)

L6 ANSWER 7 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2006:934213 CAPLUS

DN 146:195934

ED Entered STN: 12 Sep 2006

TI Method for forming capacitor of semiconductor device to form storage electrode of predetermined size

IN Yoon, Hyo Geun

PA Hynix Semiconductor Inc., S. Korea

SO Repub. Korean Kongkae Taeho Kongbo, No pp. given
CODEN: KRXXA7

DT Patent

LA Korean

IC ICM H01L027-108

CC 76-3 (Electric Phenomena)
Section cross-reference(s): 48

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	KR 2005073633	A	20050718	KR 2004-1467	20040109
PRAI	KR 2004-1467		20040109		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
KR 2005073633	ICM	H01L027-108
	IPCI	H01L0027-108 [ICM,7]

AB A method for forming a capacitor in a semiconductor device is provided to form a storage electrode of a predetd. size by changing a residual photoresist layer into a polymer component and by removing the polymer component by a cleaning process. An oxide layer for a storage electrode having a storage electrode region is formed on a semiconductor substrate. A conductive layer for the storage electrode is formed on the resultant structure including the storage electrode region. A photoresist layer burying the storage electrode region is formed on the resultant structure and a etch process for planarization was performed to expose the oxide layer for the storage electrode. The photoresist layer in the storage electrode region is eliminated and a slow heat treatment was performed so that the photoresist layer remaining in the storage electrode region is changed into polymer. A cleaning process was performed on the semiconductor substrate so that particles including the polymer are removed and the storage electrode is formed.

ST forming capacitor semiconductor device form storage electrode predetd size

IT Films
(elec. conductive; forming capacitor of semiconductor device to form storage electrode of predetd. size)

IT Electric conductors

(films; forming capacitor of semiconductor device to form storage electrode of predetd. size)

IT Capacitor electrodes
Capacitors
Cleaning
Dielectric films
Etching
Heat treatment
Photoresists
Semiconductor memory devices
(forming capacitor of semiconductor device to form storage electrode of predetd. size)

IT Oxides (inorganic), processes
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(forming capacitor of semiconductor device to form storage electrode of predetd. size)

IT Polymers, processes
RL: REM (Removal or disposal); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(forming capacitor of semiconductor device to form storage electrode of predetd. size)

L6 ANSWER 8 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:926595 CAPLUS
DN 146:195626
ED Entered STN: 11 Sep 2006
TI Method of forming contact hole of semiconductor device using pumping process for removing polymer particles from etching chamber for preventing burning of photoresist layer
IN Park, Sang Hee; Ban, Kang Hyun
PA Hynix Semiconductor Inc., S. Korea
SO Repub. Korean Kongkae Taeho Kongbo, No pp. given
CODEN: KRXXA7
DT Patent
LA Korean
IC ICM H01L021-28
CC 76-3 (Electric Phenomena)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI KR 2005059906	A	20050621	KR 2003-91631	20031215
PRAI KR 2003-91631		20031215		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
KR 2005059906	ICM	H01L021-28
	IPCI	H01L0021-28 [ICM,7]; H01L0021-02 [ICM,7,C*]

AB A method of forming a contact hole of a semiconductor device is provided for preventing burning of a photoresist layer by removing polymer particles from an etching chamber using a pumping process. A metal line is formed on a semiconductor substrate(800). An interlayer dielec. for planarizing an upper portion of the metal line is formed thereon. An ARC (Anti-Reflective Coating) and a photoresist pattern(61) are sequentially formed on the interlayer dielec. The ARC and the interlayer dielec. are selectively etched by using the photoresist pattern as an etching mask. At this time, polymers are compulsorily generated at the etched portion. A pumping process is then performed to remove polymer particles from an etching chamber(900). A contact hole for exposing the metal line to the outside is formed in the interlayer dielec. by using etching.

ST contact hole semiconductor polymer particle photoresist etching mask

IT Antireflective films
Charged particles

Electric insulators
Photoresists
Semiconductor devices
Semiconductor materials
(forming contact hole of semiconductor device using pumping process for removing polymer particles from etching chamber for preventing burning of photoresist layer)

IT Polymers, processes
RL: REM (Removal or disposal); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(forming contact hole of semiconductor device using pumping process for removing polymer particles from etching chamber for preventing burning of photoresist layer)

IT Etching masks
(sputter etching masks; forming contact hole of semiconductor device using pumping process for removing polymer particles from etching chamber for preventing burning of photoresist layer)

L6 ANSWER 9 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:849178 CAPLUS
DN 145:261025
ED Entered STN: 25 Aug 2006
TI Photosensitive polymer compositions, members using them, and method for manufacture of printed circuit boards having their resist patterns or insulating protective films
IN Murakami, Taiji; Susa, Kenzo; Machii, Yoichi
PA Hitachi Chemical Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 17pp.
CODEN: JKXXAF
DT Patent
LA Japanese
CC 76-3 (Electric Phenomena)
Section cross-reference(s): 38, 74

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2006221096	A	20060824	JP 2005-36670	20050214
PRAI JP 2005-36670		20050214		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2006221096	IPCI	G03F0007-004 [I,A]; G03F0007-40 [I,A]; H05K0003-06 [I,A]
	FTERM	2H025/AA04; 2H025/AA10; 2H025/AA11; 2H025/AA13; 2H025/AB11; 2H025/AC01; 2H025/AD01; 2H025/BC13; 2H025/BC42; 2H025/CA00; 2H025/CB00; 2H025/CC08; 2H025/CC20; 2H025/FA29; 2H025/FA39; 2H096/AA27; 2H096/BA05; 2H096/EA02; 2H096/HA01; 5E339/BC02; 5E339/BD11; 5E339/BE13; 5E339/CC01; 5E339/CC02; 5E339/CE11; 5E339/CE14; 5E339/CF16; 5E339/CF17; 5E339/CG04; 5E339/DD04

AB The compns. contain binder polymers, photopolymerizable ethylenically unsatd. compds., photoinitiators, and Ce compound-containing particles. The members, which are dry-film resists and precursors for insulating protective films, comprise supports and photosensitive layers of the compns. The manufacturing method includes laminating the members on substrates in such a way that the photosensitive layers are in contact with the substrates, exposing predetd. parts of the layers with radiation, and removing unexposed parts of the layers for forming insulating protective films. After the removal of the unexposed parts, the resulting exposed substrates are etched or plated for forming conductor patterns. The Ce compound-containing particles accelerate photopolymn. and impart mech. strength of the cured products of the photosensitive layers.

ST dry film resist cerium compd particle; printed circuit board

dielec film cerium compd particle

IT Photoresists
(dry-film; photosensitive polymer compns. containing Ce compound particles for dry-film resists and insulating protective films for manufacture of printed circuit boards)

IT Printed circuit boards
(flexible; photosensitive polymer compns. containing Ce compound particles for dry-film resists and insulating protective films for manufacture of printed circuit boards)

IT Dielectric films
Semiconductor device fabrication
(photosensitive polymer compns. containing Ce compound particles for dry-film resists and insulating protective films for manufacture of printed circuit boards)

IT 25035-81-8, Methacrylic acid-methyl methacrylate-styrene copolymer
RL: DEV (Device component use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(binder polymer; photosensitive polymer compns. containing Ce compound particles for dry-film resists and insulating protective films for manufacture of printed circuit boards)

IT 64696-13-5P
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(photosensitive polymer compns. containing Ce compound particles for dry-film resists and insulating protective films for manufacture of printed circuit boards)

IT 7440-45-1D, Cerium, compound
RL: DEV (Device component use); MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(photosensitive polymer compns. containing Ce compound particles for dry-film resists and insulating protective films for manufacture of printed circuit boards)

IT 41637-38-1, BPE 500
RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
(photosensitive polymer compns. containing Ce compound particles for dry-film resists and insulating protective films for manufacture of printed circuit boards)

L6 ANSWER 10 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:660674 CAPLUS
DN 145:217502
ED Entered STN: 09 Jul 2006
TI Silver Bromide Nanoparticle/Polymer Composites: Dual Action Tunable Antimicrobial Materials
AU Sambhy, Varun; MacBride, Megan M.; Peterson, Blake R.; Sen, Ayusman
CS Department of Chemistry, The Pennsylvania State University, University Park, PA, 16802, USA
SO Journal of the American Chemical Society (2006), 128(30), 9798-9808
CODEN: JACSAT; ISSN: 0002-7863
PB American Chemical Society
DT Journal
LA English
CC 63-5 (Pharmaceuticals)
Section cross-reference(s): 1
AB We present a simple method of fabricating highly potent dual action antibacterial composites consisting of a cationic polymer matrix and embedded silver bromide nanoparticles. A simple and novel technique of on-site precipitation of AgBr was used to synthesize the polymer /nanoparticle composites. The synthesized composites have potent antibacterial activity toward both gram-pos. and gram-neg.

bacteria. The materials form good coatings on surfaces and kill both airborne and waterborne bacteria. Surfaces coated with these composites resist biofilm formation. These composites are different from other silver-containing antibacterial materials both in the ease of synthesis and in the use of a silver salt nanoparticle instead of elemental silver or complex silver compds. We also demonstrate the ability to tune the release of biocidal Ag+ ions from these composites by controlling the size of the embedded AgBr nanoparticles. These composites are potentially useful as antimicrobial coatings in a wide variety of biomedical and general use applications.

ST silver bromide nanoparticle polymer composite antimicrobial

IT Drug delivery systems
(nanoparticles; silver bromide nanoparticle/polymer composites: dual action tunable antimicrobial materials)

IT Antibacterial agents
Composites
Particle size
Particle size distribution
Surface treatment
(silver bromide nanoparticle/polymer composites: dual action tunable antimicrobial materials)

IT 60595-47-3P
RL: BSU (Biological study, unclassified); PAC (Pharmacological activity); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(silver bromide nanoparticle/polymer composites: dual action tunable antimicrobial materials)

IT 14701-21-4, Silver ion(1+), biological studies
RL: FMU (Formation, unclassified); PAC (Pharmacological activity); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); USES (Uses)
(silver bromide nanoparticle/polymer composites: dual action tunable antimicrobial materials)

IT 9003-47-8, Poly(vinylpyridine)
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(silver bromide nanoparticle/polymer composites: dual action tunable antimicrobial materials)

IT 111-25-1, 1-Hexylbromide 7785-23-1, Silver bromide 16836-95-6, Silver p-toluenesulfonate 25232-41-1, Poly(4-vinylpyridine)
RL: RCT (Reactant); RACT (Reactant or reagent)
(silver bromide nanoparticle/polymer composites: dual action tunable antimicrobial materials)

RE.CNT 104 THERE ARE 104 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L6 ANSWER 11 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:601294 CAPLUS
DN 145:54599
ED Entered STN: 22 Jun 2006
TI Flip-chip connection of semiconductor chips
IN Sato, Seiji; Ozawa, Takashi; Araki, Yasushi
PA Shinko Electric Industries Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
CC 76-3 (Electric Phenomena)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2006165303	A	20060622	JP 2004-355272	20041208
PRAI JP 2004-355272		20041208		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2006165303	IPCI	H01L0021-60 [I,A]; H01L0021-02 [I,C*]; H01L0023-29 [I,A]; H01L0023-31 [I,A]; H01L0023-28 [I,C*]
	FTERM	4M109/AA01; 4M109/BA03; 4M109/CA04; 4M109/EA01; 4M109/EB11; 5F044/LL01; 5F044/LL04; 5F044/LL11; 5F044/RR17; 5F044/RR19

AB Under-fill resins which contain filler particles satisfying the condition PO-SCRmax-10 ≤ Fmax ≤ Po-SCRmax and PO-SCRmax-15 ≤ Fave ≤ Po-SCRmax (unit μm, Fmax : maximum filler particle size, Fave : average filler grain size, PO : chip pad opening width, and SRmax : maximum thickness of solder resist layer) are deposited on the predetd. positions of substrates to form mesas, semiconductor chips are pressed against the mesas to spread, the filler particles maintain predetd. chip-substrate distance, the under-fill resins are hardened to connect the chip stud bumps and substrate solder bumps.
ST flip chip connection semiconductor underfill resin; filler particle bump solder
IT Solders
(bump; deposition and hardening of under-fill resins containing filler particles in flip-chip connection of semiconductor chips)
IT Bump contacts
Electronic packaging process
Hardening (mechanical)

(deposition and hardening of under-fill resins containing filler particles in flip-chip connection of semiconductor chips)

IT Epoxy resins, processes
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(deposition and hardening of under-fill resins containing filler particles in flip-chip connection of semiconductor chips)

IT Particles
(filler; deposition and hardening of under-fill resins containing filler particles in flip-chip connection of semiconductor chips)

IT Fillers
(particles; deposition and hardening of under-fill resins containing filler particles in flip-chip connection of semiconductor chips)

IT 7631-86-9, Silica, processes
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(particles; deposition and hardening of under-fill resins containing filler particles in flip-chip connection of semiconductor chips)

L6 ANSWER 12 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:566382 CAPLUS
DN 145:67902
ED Entered STN: 15 Jun 2006
TI Treatment of photoactive semiconductor particles by silica/alumina with citric acid for improved stability and resistance to dopant leaching in dispersion
IN Morrison, William Harvey
PA USA
SO U.S. Pat. Appl. Publ., 8 pp.
CODEN: USXXCO
DT Patent
LA English
INCL 252062300Q; 428405000
CC 57-2 (Ceramics)
Section cross-reference(s): 76
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2006124888	A1	20060615	US 2004-8368	20041209
PRAI US 2004-8368		20041209		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2006124888	INCL	252062300Q; 428405000
	IPCI	C04B0035-00 [I,A]; B32B0027-00 [N,A]
	NCL	252/062.300Q; 428/405.000

AB A silica treatment for photoactive semiconductors (such as BaTiO3, ZnO, and ZnS) comprises adding a densifying agent (such as citric acid) to an aqueous slurry of the semiconductor particles; treating the aqueous slurry with a source of silica (such as a solution of sodium silicate) to form silica-treated semiconductor particles before treating the silica-treated semiconductor particles with a source of alumina (such as a sodium aluminate solution) to form silica- and alumina-treated photoactive semiconductor particles. The treated particles can then be used in high dielec. constant compns. for use in thick films and castable tape for making multilayer circuits. The treated semiconductor particles are stable in dispersions and resist dopant leaching during high temperature processing.

ST alumina silica citric acid treatment photoactive semiconductor

dispersion dielec; barium titanate zinc oxide sulfide dopant leaching resistance

IT Slurries
(ceramic; treatment of photoactive semiconductor particles by silica/alumina with citric acid for improved stability and resistance to dopant leaching in dispersion)

IT Phosphates, uses
Sulfates, uses
RL: MOA (Modifier or additive use); USES (Uses)
(densifying agent; treatment of photoactive semiconductor particles by silica/alumina with citric acid for improved stability and resistance to dopant leaching in dispersion)

IT Rare earth metals, uses
RL: MOA (Modifier or additive use); USES (Uses)
(dopant; treatment of photoactive semiconductor particles by silica/alumina with citric acid for improved stability and resistance to dopant leaching in dispersion)

IT Polysiloxanes, processes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(hydroxy; treatment of photoactive semiconductor particles by silica/alumina with citric acid for improved stability and resistance to dopant leaching in dispersion)

IT Semiconductor materials
(photoactive particles; treatment of photoactive semiconductor particles by silica/alumina with citric acid for improved stability and resistance to dopant leaching in dispersion)

IT Electric insulators
(photoactive semiconductor particles for; treatment of photoactive semiconductor particles by silica/alumina with citric acid for improved stability and resistance to dopant leaching in dispersion)

IT Aluminosilicates, processes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(photoactive semiconductor particles; treatment of photoactive semiconductor particles by silica/alumina with citric acid for improved stability and resistance to dopant leaching in dispersion)

IT Ceramics
(slurries; treatment of photoactive semiconductor particles by silica/alumina with citric acid for improved stability and resistance to dopant leaching in dispersion)

IT 77-92-9, Citric acid, uses
RL: MOA (Modifier or additive use); USES (Uses)
(densifying agent; treatment of photoactive semiconductor particles by silica/alumina with citric acid for improved stability and resistance to dopant leaching in dispersion)

IT 1309-48-4, Magnesium oxide (MgO), uses 1314-23-4, Zirconia, uses 7439-92-1, Lead, uses 7440-03-1, Niobium, uses 7440-24-6, Strontium, uses 7440-42-8, Boron, uses 7440-70-2, Calcium, uses 7723-14-0, Phosphorus, uses
RL: MOA (Modifier or additive use); USES (Uses)
(dopant; treatment of photoactive semiconductor particles by silica/alumina with citric acid for improved stability and resistance to dopant leaching in dispersion)

IT 409-21-2, Silicon carbide (SiC), processes 1303-00-0, Gallium arsenide (GaAs), processes 1306-24-7, Cadmium selenide (CdSe), processes 1306-25-8, Cadmium telluride (CdTe), processes 1309-37-1, Ferric oxide, processes 1310-53-8, Germania, processes 1314-13-2, Zinc oxide (ZnO), processes 1314-35-8, Tungsten oxide (WO3), processes 1314-61-0, Tantalum oxide (Ta2O5) 1314-98-3, Zinc sulfide (ZnS), processes 1317-33-5, Molybdenum sulfide (MoS2), processes

7446-08-4, Selenium oxide (SeO2) 12036-10-1, Ruthenium oxide (RuO2) 12047-27-7, Barium titanate (BaTiO3), processes 12049-50-2, Calcium titanate (CaTiO3) 12060-59-2, Strontium titanate (SrTiO3) 12063-98-8, Gallium phosphide (GaP), processes 18282-10-5, Tin oxide (SnO2) 20667-12-3, Silver oxide (Ag2O) 22398-80-7, Indium phosphide (InP), processes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(photoactive semiconductor particles; treatment of photoactive semiconductor particles by silica/alumina with citric acid for improved stability and resistance to dopant leaching in dispersion)

IT 1344-09-8, Waterglass 1344-28-1, Aluminum oxide (Al2O3), processes 7631-86-9, Silica, processes 11138-49-1, Sodium aluminate
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(treatment by; treatment of photoactive semiconductor particles by silica/alumina with citric acid for improved stability and resistance to dopant leaching in dispersion)

IT 919-30-2, Aminopropyltriethoxysilane 2943-75-1, Octyltriethoxysilane 72006-34-9
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(treatment of photoactive semiconductor particles by silica/alumina with citric acid for improved stability and resistance to dopant leaching in dispersion)

L6 ANSWER 13 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:558534 CAPLUS
DN 145:54269
ED Entered STN: 15 Jun 2006
TI Cleaning agents for semiconductor manufacturing apparatus
IN Hirano, Tomoyuki; Yoshida, Masaaki
PA Tokyo Ohka Kogyo Co., Ltd., Japan
SO PCT Int. Appl., 17 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
CC 76-2 (Electric Phenomena)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2006061967	A1	20060615	WO 2005-JP20446	20051108
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	JP 2006160859	A	20060622	JP 2004-353375	20041206
PRAI	JP 2004-353375	A	20041206		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2006061967	IPCI	C11D0007-26 [I,A]; C11D0007-22 [I,A]; C11D0007-50 [I,A]
	IPCR	C11D0007-22 [I,C]; C11D0007-26 [I,A]; C11D0007-22 [I,A]; C11D0007-50 [I,C]; C11D0007-50 [I,A]
	ECLA	C11D007/26A; C11D007/50; C11D011/00B2D8

JP 2006160859 IPCI C11D0007-26 [I,A]; C11D0007-22 [I,A]; C11D0007-50 [I,A]
FTERM 4H003/DA12; 4H003/DA15; 4H003/EB28; 4H003/EB30; 4H003/ED28; 4H003/FA45

AB Title cleaning agent in cleaning and removing polymer residues from photolithog. protective polymer material feeding pipes in semiconductor manufacturing apparatus comprises alcs. having b.p. ≥100° such as n-Bu alc., preferable iso-Bu alc., n-pentanol, 4-methyl-2-pentanol, and/or 2-octanols. The use of alcs. gives efficient and effective cleaning of the pipes to provide immaculate high-resolution resist patterns.

ST alc cleaning agent polymer residue removal pipe semiconductor manufg

IT Cleaning solvents
Photolithography
(cleaning agents for semiconductor manufacturing apparatus)

IT Alcohols, properties
RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)
(cleaning agents; cleaning agents for semiconductor manufacturing apparatus)

IT Particles
(contaminants; cleaning agents for semiconductor manufacturing apparatus)

IT Solvents
(for cleaning; cleaning agents for semiconductor manufacturing apparatus)

IT Semiconductor materials
(manufacturing of, apparatus for; cleaning agents for semiconductor manufacturing apparatus)

IT Photoresists
(pattern, manufacturing pipe cleaning of; cleaning agents for semiconductor manufacturing apparatus)

IT Pipes and Tubes
(polymer feeding, cleaning of; cleaning agents for semiconductor manufacturing apparatus)

IT Solid wastes
(polymer residues, removal of; cleaning agents for semiconductor manufacturing apparatus)

IT 71-36-3, n-Butyl alcohol, properties 71-41-0, n-Pentanol, properties 78-83-1, Iso-Butyl alcohol, properties 108-11-2, 4-Methyl-2-pentanol 123-96-6, 2-Octanol
RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)
(cleaning agents; cleaning agents for semiconductor manufacturing apparatus)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Asahi Chemical Industry Co Ltd; JP 10-146844 A 1998 CAPLUS
(2) Mitsubishi Electric Corp; JP 2001194785 A 2001 CAPLUS
(3) Mitsubishi Gas Chemical Co Inc; JP 06-13364 A 1994 CAPLUS
(4) Nikon Corp; JP 200579222 A 2005
(5) Polyplastics Co Ltd; JP 59-202298 A 1984 CAPLUS
(6) Polyplastics Co Ltd; GB 2172304 A 1986 CAPLUS
(7) Polyplastics Co Ltd; JP 61-159499 A 1986 CAPLUS
(8) Tokyo Ohka Kogyo Co Ltd; WO 2005019937 A1 2005 CAPLUS
(9) Tokyo Ohka Kogyo Co Ltd; JP 200599648 A 2005

L6 ANSWER 14 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:355255 CAPLUS
DN 146:52270
ED Entered STN: 19 Apr 2006
TI Nanopatterning of colloidal nanocrystals emitters dispersed in a PMMA matrix by e-beam lithography
AU Martiradonna, Luigi; Stomeo, Tiziana; De Giorgi, Milena; Cingolani, Roberto; De Vittorio, Massimo
CS National Nanotechnology Laboratory (NNL) of CNR-INFM, University of Lecce, Lecce, I-73100, Italy
SO Microelectronic Engineering (2006), 83(4-9), 1478-1481
CODEN: MIENEF; ISSN: 0167-9317
PB Elsevier B.V.

DT Journal
LA English
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
AB We report on the fabrication of periodic nanostructures embedding semiconductor colloidal nanocrystals (NCs) by directly exposing a polymer/NCs blend to electron beam lithog. (EBL). Our technol. approach for the fabrication of NCs-based photonic devices relies on the dispersion of CdSe/ZnS core/shell NCs into a layer of polymethyl methacrylate (PMMA) pos. electron resist, which is patterned by means of an EBL process. The presence of NCs in the resist did not modify the peculiar behavior of PMMA, which was selectively removed from the regions exposed to the electron beam. The morphol. of the sample was assessed by SEM and atomic force microscopy measurements. The optical anal. of the samples after the dispersion of the NCs into the PMMA matrix and the exposure to the e-beam showed the successful localization of the colloidal NCs, whose emission properties were preserved.
ST nanopatterning colloidal nanocrystal dispersed polymethyl methacrylate electron beam lithog
IT Electron beam lithography
Luminescence
Nanocrystals
Nanostructures
(nanopatterning of colloidal nanocrystals emitters dispersed in polymethyl methacrylate by electron beam lithog.)
IT 1306-24-7, Cadmium selenide (CdSe), uses 1314-98-3, Zinc sulfide, uses 9011-14-7, PMMA
RL: TEM (Technical or engineered material use); USES (Uses)
(nanopatterning of colloidal nanocrystals emitters dispersed in polymethyl methacrylate by electron beam lithog.)
RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Alivisatos, A; Science 1996, V271, P933 CAPLUS
(2) Anni, M; Appl Phys Lett 2004, V85, P4169 CAPLUS
(3) Chan, Y; Appl Phys Lett 2005, V86, P073102
(4) Dabboussi, B; J Phys Chem B 1997, V101, P9463
(5) Du, H; Chem Mater 2002, V14, P4473 CAPLUS
(6) Finlayson, C; Appl Phys Lett 2000, V77, P2500 CAPLUS
(7) Hines, M; J Phys Chem B 1998, V102, P3655 CAPLUS
(8) Kasuya, A; Nat Mater 2004, V3, P99 CAPLUS
(9) Klimov, V; Science 2000, V290, P314 CAPLUS
(10) Li, Y; J Appl Phys 2005, V97, P113501
(11) Manna, L; J Am Chem Soc 2000, V122, P12700 CAPLUS
(12) Martiradonna, L; Proc SPIE 2005, P168 CAPLUS
(13) Parak, W; Nanotechnology 2003, V14, PR15 CAPLUS
(14) Pietryga, J; J Am Chem Soc 2004, V126, P11752 CAPLUS
(15) Reiss, P; Nanoletters 2002, V7, P781
(16) Roither, J; Appl Phys Lett 2004, V84, P2223 CAPLUS

L6 ANSWER 15 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:340695 CAPLUS
ED Entered STN: 13 Apr 2006
TI Semiconductor device mounted body and its production method [Machine Translation].
IN Higashiguchi, Masahiro; Tan, Kunihiro
PA Ricoh Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2006100663	A	20060413	JP 2004-286341	20040930

PRAI JP 2004-286341 20040930

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2006100663	IPCI	H01L0023-28 [I,A]; H01L0021-60 [I,A]; H01L0021-02 [I,C*]
	FTERM	4M109/AA01; 4M109/BA04; 4M109/CA06; 4M109/DB08; 4M109/EA01; 4M109/EB13; 5F044/KK02; 5F044/LL01; 5F044/RR17; 5F044/RR18

AB [Machine Translation of Descriptors]. Not doing under filling process, the silica particle makes the semiconductor chip and not to go between the wiring baseplate. The solder - it applies the resist to the surface which loads the semiconductor chip with the description wiring baseplate, that solder - in the terminal area of the semiconductor chip removes the resist, it leaves as the bulging section of the form which is continued at least alongside the periphery of the semiconductor chip. Making the circuit element formation aspect of the semiconductor chip the wiring baseplate meet, connecting to the wiring baseplate with the bump electrode, after loading the semiconductor chip, dripping the seal resin which includes the silica particle which than the opening of the circuit element formation aspect and the bulging section of the semiconductor chip is larger to the seal resin main material on the semiconductor chip, as it covers the semiconductor chip, with the wiring baseplate and the circuit element formation aspect of the semiconductor chip from the bulging section making the seal resin main material penetrate which is not included, it seals the silica particle in the territory inside.

L6 ANSWER 16 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:231928 CAPLUS
DN 144:322805
ED Entered STN: 16 Mar 2006
TI Method for prevention of increase in particles in copolymer for semiconductor resist
IN Yamagishi, Takanori; Mizuno, Kazuhiko
PA Japan
SO U.S. Pat. Appl. Publ., 10 pp.
CODEN: USXXCO
DT Patent
LA English
INCL 524160000
CC 76-3 (Electric Phenomena)
Section cross-reference(s): 74
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2006058433	A1	20060316	US 2005-224510	20050912
JP 2006083214	A	20060330	JP 2004-266755	20040914
PRAI JP 2004-266755	A	20040914		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2006058433	INCL	524160000
	IPCI	C08C0001-14 [I,A]; C08C0001-00 [I,C*]
	IPCR	C08C0001-00 [I,C]; C08C0001-14 [I,A]
	NCL	524/160.000
JP 2006083214	IPCI	C08F0006-00 [I,A]; G03F0007-032 [I,A]; G03F0007-039 [I,A]; G03F0007-26 [I,A]
	FTERM	2H025/AA00; 2H025/AB16; 2H025/AD03; 2H025/CB08; 2H025/CB41; 2H096/AA25; 2H096/BA11; 2H096/LA16; 2H096/LA30; 4J100/AB02R; 4J100/AB03R; 4J100/AB07P; 4J100/AJ02P; 4J100/AJ03P; 4J100/AJ09P; 4J100/AK32P; 4J100/AL08P; 4J100/AL08Q; 4J100/AL08R; 4J100/AM43P; 4J100/AR09R; 4J100/AR11P; 4J100/AR11R; 4J100/BA03P;

4J100/BA03R; 4J100/BA16P; 4J100/BB18P; 4J100/BC07P; 4J100/BC09Q; 4J100/BC09R; 4J100/BC53P; 4J100/CA04; 4J100/CA05; 4J100/GC35; 4J100/GC37; 4J100/JA38; 4J100/JA43

AB A method for prevention of increase in particles in copolymer for semiconductor resist, which comprises passing, through a filter containing a resin having an amino group and/or an amide bond, a copolymer solution for semiconductor resist which contains a copolymer for semiconductor resist having a polar group-containing recurring unit and an alicyclic structure-containing recurring unit and which contains no ionic additive. With the method, there can be obtained a copolymer for semiconductor resist, which can be suitably used in a resist film used for formation of a fine pattern in semiconductor production and which is very low in formation of particles during storage and accordingly generates substantially no defect after development.

ST filtration copolymer resist semiconductor integrated circuit

IT Filtration
Photoresists
(filtration of copolymer for resist composition in semiconductor integrated circuit fabrication)

IT Polyimides, processes
RL: DEV (Device component use); EPR (Engineering process); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(filtration of copolymer for resist composition in semiconductor integrated circuit fabrication)

L6 ANSWER 17 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:170290 CAPLUS
DN 144:222338
ED Entered STN: 24 Feb 2006
TI Light-emitting device, manufacturing method of particle and manufacturing method of light-emitting device
IN Sai, Hironobu
PA Japan
SO U.S. Pat. Appl. Publ., 18 pp.
CODEN: USXXCO
DT Patent
LA English
INCL 257079000; 257103000; 257095000; 257094000; 257087000
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2006038184	A1	20060223	US 2005-202367	20050812
	JP 2006054347	A	20060223	JP 2004-235536	20040812
PRAI	JP 2004-235536	A	20040812		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2006038184	INCL	257079000; 257103000; 257095000; 257094000; 257087000
	IPCI	H01L0033-00 [I,A]
	IPCR	H01L0033-00 [I,A]; H01L0033-00 [I,C]
	NCL	257/079.000; 257/087.000; 257/094.000; 257/095.000; 257/103.000
	ECLA	H01L033/00C2
JP 2006054347	IPCI	H01L0033-00 [I,A]
	FTERM	5F041/AA12; 5F041/CA05; 5F041/CA34; 5F041/CA35; 5F041/CA46

AB A light-emitting device is described comprising, in order, a pos. hole supply layer; a particle layer comprising particles of semiconductor crystals and a conductive medium (e.g., conductive polymer), the conductive medium which fills spaces between the

particles and confines pos. holes and electrons in the particles by dint of an energy gap larger than those of the particles; and an electron supply layer, where pos. holes, which are supplied from the pos. hole supply layer through the conductive medium to the particles, and electrons, which are supplied from the electron supply layer through the conductive medium to the particles, are caused to recombine to emit light in the particles. A method of fabricating the LED is also described. A method of fabricating particles is also described entailing forming any one of a resist film and a metal oxide film on a semiconductor layer; forming a thin semiconductor film having a thickness approx. equal to sizes of particles to be formed, on any one of the resist film and the metal oxide film; removing any one of the resist film and the metal oxide film to lift off the thin semiconductor film; and crushing the lifted-off thin semiconductor film.

ST LED fabrication semiconductor crystal conductive media; light emitting device fabrication

IT Conducting polymers
Electroluminescent devices
Quantum well devices
Semiconductor device fabrication
(light-emitting device having particle layers comprising semiconductor crystals filled with conductive media)

IT 1344-28-1, Alumina, uses
RL: NUU (Other use, unclassified); USES (Uses)
(light-emitting device having particle layers comprising semiconductor crystals filled with conductive media)

IT 1303-00-0, Gallium arsenide (GaAs), uses 22398-80-7, Indium phosphide (InP), uses 22831-42-1, Aluminum arsenide (AlAs) 106070-25-1, Gallium indium arsenide
RL: DEV (Device component use); USES (Uses)
(particle; light-emitting device having particle layers comprising semiconductor crystals filled with conductive media)

L6 ANSWER 18 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:492876 CAPLUS
DN 143:18133
ED Entered STN: 10 Jun 2005
TI Dry film photoresists, laminates of same photoresists and printed circuit board substrates, and manufacture of printed circuit boards
IN Wakata, Yuichi
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 29 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-004
ICS G03F007-033; H05K003-06
CC 76-14 (Electric Phenomena)
Section cross-reference(s): 38, 74

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2005148236	A	20050609	JP 2003-382960	20031112
PRAI	JP 2003-382960		20031112		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2005148236	ICM	G03F007-004
	ICS	G03F007-033; H05K003-06
	IPCI	G03F0007-004 [ICM,7]; G03F0007-033 [ICS,7]; H05K0003-06 [ICS,7]
	IPCR	G03F0007-004 [I,A]; G03F0007-004 [I,C*]; G03F0007-033 [I,A]; G03F0007-033 [I,C*]; H05K0003-06 [I,A];

H05K0003-06 [I,C*]

FTERM 2H025/AB11; 2H025/AB15; 2H025/AC01; 2H025/AD01; 2H025/BC32; 2H025/BC42; 2H025/BC51; 2H025/CA00; 2H025/CA01; 2H025/CA28; 2H025/CB43; 2H025/CC08; 2H025/DA01; 2H025/FA03; 2H025/FA17; 5E339/AC01; 5E339/BC02; 5E339/BD11; 5E339/BE13; 5E339/CC01; 5E339/CC02; 5E339/CE11; 5E339/CE14; 5E339/CF16; 5E339/CF17; 5E339/CG04; 5E339/DD04

AB The dry film photoresists comprise, on supports, photosensitive polymer layers containing binders, polymerizable monomers, photopolymn. initiators, and polymerizable-group-terminated inorg. fine particles. In manufacture of printed circuit boards having through/via holes, the dry film photoresists are employed for forming metallic wiring patterns. The photosensitive polymer layers may be constituted by first layers (directly placed on the supports) and second layers (formed on the first layers) having higher photosensitivity than those of the first layers, wherein the inorg. fine particles bearing polymerizable groups are included in either or both the first- and/or the second layers. In manufacture of the printed circuit boards by employing the bilayer-type photoresists, only the second layers are hardened in forming patterns for the wirings, while both the first- and second layers are hardened in tinting the through/via holes. Also claimed are laminates of the photoresists and metal-clad printed circuit board substrates. The photoresists are capable of high-resolution thin film patterns with satisfactory strength.

ST dry film photoresist manuf printed circuit board; photopolymerizable inorg particle additive dry film photoresist

IT Photolithography
Printed circuit boards
(dry film photoresist containing inorg. particles bearing polymerizable group for manufacturing printed circuit board)

IT Negative photoresists
(dry films; dry film photoresist containing inorg. particles bearing polymerizable group for manufacturing printed circuit board)

IT Polyesters, uses
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(in dry film photoresist containing inorg. particles bearing polymerizable group for manufacturing printed circuit board)

IT Semiconductor device fabrication
(photolithog.; dry film photoresist containing inorg. particles bearing polymerizable group for manufacturing printed circuit board)

IT 120659-23-6, Benzyl methacrylate-2-ethylhexyl acrylate-methacrylic acid-methyl methacrylate copolymer
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(binder; in dry film photoresist containing inorg. particles bearing polymerizable group for manufacturing printed circuit board)

IT 7631-86-9D, Silica, acryloyl-terminated 17831-71-9, Tetraethylene glycol diacrylate 41637-38-1, Ethoxylated bisphenol a dimethacrylate 52496-08-9, Polypropylene glycol diacrylate
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(in dry film photoresist containing inorg. particles bearing polymerizable group for manufacturing printed circuit board)

IT 90-93-7, 4,4'-Bis(diethylamino)benzophenone 119-61-9, Benzophenone, uses 603-48-5, Leuco crystal violet 1707-68-2, 2,2'-Bis(o-chlorophenyl)-4,4',5,5'-tetraphenylbiimidazole 17025-47-7, Phenyltribromomethylsulfone
RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)
(photopolymn. initiator; in dry film photoresist containing inorg. particles bearing polymerizable group for manufacturing printed circuit board)

IT 247565-86-2, Z 7501

RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(polymerizable particles; in dry film photoresist containing inorg. particles bearing polymerizable group for manufacturing printed circuit board)

IT 9003-07-0, Polypropylene
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(protective film; in dry film photoresist containing inorg. particles bearing polymerizable group for manufacturing printed circuit board)

IT 25038-59-9, uses
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(support; in dry film photoresist containing inorg. particles bearing polymerizable group for manufacturing printed circuit board)

IT 7440-50-8, Copper, processes
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(wiring of printed circuit boards; dry film photoresist containing inorg. particles bearing polymerizable group for manufacturing printed
circuit board)

L6 ANSWER 19 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:387802 CAPLUS
DN 142:413012
ED Entered STN: 05 May 2005
TI Patterning solution deposited thin films with stamp applied self-assembled monolayers
IN Kagan, Cherie R.; Breen, Tricia Lynn; Kosbar, Laura Louise
PA International Business Machines Corp., USA
SO U.S., 12 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM B44C001-16
ICS B05D005-12; C03C015-00; C03C025-68; H01L021-30
INCL 156230000; 156232000; 156242000; 427096000; 427261000; 428914000; 216049000; 438738000
CC 42-2 (Coatings, Inks, and Related Products)
Section cross-reference(s): 74
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6887332	B1	20050503	US 2000-556952	20000421
	US 2004163758	A1	20040826	US 2004-761798	20040121
PRAI	US 2000-556952	A2	20000421		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6887332	ICM	B44C001-16
	ICS	B05D005-12; C03C015-00; C03C025-68; H01L021-30
	INCL	156230000; 156232000; 156242000; 427096000; 427261000; 428914000; 216049000; 438738000
	IPCI	B44C0001-16 [ICM,7]; B05D0005-12 [ICS,7]; C03C0015-00 [ICS,7]; C03C0025-68 [ICS,7]; H01L0021-30 [ICS,7]; H01L0021-02 [ICS,7,C*]
	IPCR	B05D0005-12 [I,C*]; B05D0005-12 [I,A]; B44C0001-16 [I,C*]; B44C0001-16 [I,A]; B44C0001-165 [I,C*]; B44C0001-165 [I,A]; C03C0015-00 [I,C*]; C03C0015-00 [I,A]; C03C0025-68 [I,C*]; C03C0025-68 [I,A]; G03F0007-16 [I,C*]; G03F0007-16 [I,A]; G03F0007-40 [N,C*]; G03F0007-40 [N,A]; H01L0021-02 [I,C*]; H01L0021-30 [I,A]; H01L0051-05 [N,C*]; H01L0051-40

[N,A]; H05K0003-12 [N,C*]; H05K0003-12 [N,A]
NCL 427/097.300; 156/232.000; 156/242.000; 216/049.000; 427/098.400; 427/261.000; 428/914.000; 438/738.000
ECLA G03F007/00A; G03F007/16L

US 2004163758 IPCI B44C0001-165 [ICM,7]
IPCR B05D0005-12 [I,C*]; B05D0005-12 [I,A]; B44C0001-16 [I,C*]; B44C0001-16 [I,A]; B44C0001-165 [I,C*]; B44C0001-165 [I,A]; C03C0015-00 [I,C*]; C03C0015-00 [I,A]; C03C0025-68 [I,C*]; C03C0025-68 [I,A]; G03F0007-16 [I,C*]; G03F0007-16 [I,A]; G03F0007-40 [N,C*]; G03F0007-40 [N,A]; H01L0021-02 [I,C*]; H01L0021-30 [I,A]; H01L0051-05 [N,C*]; H01L0051-40 [N,A]; H05K0003-12 [N,C*]; H05K0003-12 [N,A]
NCL 156/230.000
ECLA G03F007/00A; G03F007/16L

AB A method of forming a patterned thin film on a surface of a substrate with a patterned underlayer of a self-assembled monolayer. The method comprises depositing a thin film material on the self-assembled monolayer to produce a patterned thin film on the surface of the substrate. The method further provides processes for preparing the self-assembled monolayer. The method still further provides solution-based deposition processes, such as spin-coating and immersion-coating, to deposit a thin film material on the self-assembled monolayer to produce a patterned thin film on the surface of the substrate.

ST thin film spin immersion deposition self assembled patterned underlayer; organophosphite org trichlorosilane self assembled monolayer silicon stamp deposition; patterned thin film deposition lithog semiconductor transistor capacitor application

IT Interface
(film-substrate, of metal, metal oxide,semiconductor, metal alloy, polymer, organic solid; stamping deposition of patterned underlayers of self-assembled mol. monolayer for selective spin or immersion coating of thin films to solid substrates)

IT Photoresists
(for thin films; stamping deposition of patterned underlayers of self-assembled mol. monolayer for selective spin or immersion coating of thin films to solid substrates)

IT Organometallic compounds
Polymers, uses
Salts, uses
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(for thin films; stamping deposition of patterned underlayers of self-assembled mol. monolayer for selective spin or immersion coating of thin films to solid substrates)

IT Coating process
(immersion; stamping deposition of patterned underlayers of self-assembled mol. monolayer for selective spin or immersion coating of thin films to solid substrates)

IT Nanoparticles
(of metal, metal oxide, semiconductor, silica, for thin films; stamping deposition of patterned underlayers of self-assembled mol. monolayer for selective spin or immersion coating of thin films to solid substrates)

IT Coating process
(spin; stamping deposition of patterned underlayers of self-assembled mol. monolayer for selective spin or immersion coating of thin films to solid substrates)

IT Electroluminescent devices
Lithography
Self-assembled monolayers
Semiconductor materials
Thin film transistors
(stamping deposition of patterned underlayers of self-assembled mol.

monolayer for selective spin or immersion coating of thin films to solid substrates)

IT Oligomers
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(thin films; stamping deposition of patterned underlayers of self-assembled mol. monolayer for selective spin or immersion coating of thin films to solid substrates)

IT 4724-47-4, Octadecyl phosphonic acid
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(patterning mol. monolayer; stamping deposition of patterned underlayers of self-assembled mol. monolayer for selective spin or immersion coating of thin films to solid substrates)

IT 78560-45-9, (Tridecafluoro 1,1,2,2-tetrahydrooctyl)trichlorosilane
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(patterning mol.monolayer; stamping deposition of patterned underlayers of self-assembled mol. monolayer for selective spin or immersion coating of thin films to solid substrates)

IT 301-10-0 9011-14-7, Poly(methyl methacrylate) 151175-43-8
158573-01-4 263553-99-7, UV 82 334004-25-0, Highlink OG 113-53
746676-73-3 748151-61-3
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(spun thin film; stamping deposition of patterned underlayers of self-assembled mol. monolayer for selective spin or immersion coating of thin films to solid substrates)

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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(2) Bamdad; US 5620850 A 1997 CAPLUS
(3) Era; Appl Phys Lett 1994, V65(6), P676 CAPLUS
(4) Everhart; US 6020047 A 2000
(5) Jeon; J Mater Res 1995, V10(12), P2996 CAPLUS
(6) Kumar; US 5512131 A 1996
(7) Mantese; US 4916115 A 1990 CAPLUS
(8) Mantese; US 4952556 A 1990 CAPLUS
(9) Paul; Applied Physics Letters 1998, V73(20), P2893 CAPLUS
(10) Wefers; US 5059258 A 1991 CAPLUS
(11) Whitesides; US 5900160 A 1999

L6 ANSWER 20 OF 47 CAPLUS

AN 2005:36449 CAPLUS
DN 142:125272
ED Entered STN: 14 Jan 2005

TI Compositions and methods for forming a semiconducting and/or silicon-containing film, and structures formed therefrom

IN Kunze, Klaus; Haubrich, Scott; Zurcher, Fabio; Ridley, Brent; Rockenberger, Joerg
PA USA

SO U.S. Pat. Appl. Publ., 17 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM B32B009-04
ICS B32B013-04; H01L021-20; H01L021-44
INCL 428447000; 428446000; 428195100; 438584000; 438674000; 438669000
CC 76-3 (Electric Phenomena)
Section cross-reference(s): 48, 74
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2005008880	A1	20050113	US 2003-616147	20030708
	JP 2005051222	A	20050224	JP 2004-202419	20040708
	US 2006154036	A1	20060713	US 2006-373696	20060310
	US 2006157677	A1	20060720	US 2006-373460	20060310
PRAI	US 2003-616147	A	20030708		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2005008880	ICM	B32B009-04
	ICS	B32B013-04; H01L021-20; H01L021-44
	INCL	428447000; 428446000; 428195100; 438584000; 438674000; 438669000
	IPCI	B32B0009-04 [ICM,7]; B32B0013-04 [ICS,7]; B32B0013-00 [ICS,7,C*]; H01L0021-20 [ICS,7]; H01L0021-44 [ICS,7]; H01L0021-02 [ICS,7,C*]
	IPCR	B32B0009-04 [I,C*]; B32B0009-04 [I,A]; B32B0013-00 [I,C*]; B32B0013-04 [I,A]; C09D0011-00 [I,C*]; C09D0011-00 [I,A]; H01L0021-02 [I,C*]; H01L0021-20 [I,A]; H01L0021-208 [I,A]; H01L0021-336 [I,A]; H01L0021-44 [I,A]
	NCL	428/447.000; 257/E21.114; 257/E21.413; 428/195.100; 428/446.000; 438/584.000; 438/669.000; 438/674.000
	ECLA	C09D011/00D; H01L021/208; H01L021/336D2B
JP 2005051222	IPCI	H01L0021-208 [ICM,7]; H01L0021-02 [ICM,7,C*]
	IPCR	B32B0009-04 [I,A]; B32B0009-04 [I,C*]; B32B0013-00 [I,C*]; B32B0013-04 [I,A]; H01L0021-02 [I,C*]; H01L0021-20 [I,A]; H01L0021-208 [I,A]; H01L0021-44 [I,A]
	FTERM	5F053/AA06; 5F053/DD01; 5F053/DD20; 5F053/FF01; 5F053/HH01; 5F053/PP03
US 2006154036	IPCI	B32B0018-00 [I,A]
	IPCR	B32B0018-00 [I,A]; B32B0009-04 [I,C*]; B32B0009-04 [I,A]; B32B0013-00 [I,C*]; B32B0013-04 [I,A]; B32B0018-00 [I,C]; C09D0011-00 [I,C*]; C09D0011-00 [I,A]; H01L0021-02 [I,C*]; H01L0021-20 [I,A]; H01L0021-208 [I,A]; H01L0021-336 [I,A]; H01L0021-44 [I,A]
	NCL	428/210.000
	ECLA	C09D011/00D; H01L021/208; H01L021/336D2B
US 2006157677	IPCI	H01B0001-12 [I,A]
	IPCR	H01B0001-12 [I,A]; B32B0009-04 [I,C*]; B32B0009-04 [I,A]; B32B0013-00 [I,C*]; B32B0013-04 [I,A]; C09D0011-00 [I,C*]; C09D0011-00 [I,A]; H01B0001-12 [I,C]; H01L0021-02 [I,C*]; H01L0021-20 [I,A]; H01L0021-208 [I,A]; H01L0021-336 [I,A]; H01L0021-44 [I,A]
	NCL	252/500.000
	ECLA	C09D011/00D; H01L021/208; H01L021/336D2B

AB Compns., inks and methods for forming a patterned Si-containing film and patterned structures including such a film. The composition generally includes (a) passivated semiconductor nanoparticles and (b) 1st and 2nd cyclic Group IVA compds. in which the cyclic species predominantly contains Si and/or Ge atoms. The ink generally includes the composition and a solvent in which the composition is soluble The method generally includes the steps of (1) printing the composition or ink on a substrate to form a pattern, and (2) curing the patterned composition or ink. In an alternative embodiment, the method includes the steps of (i) curing either a semiconductor nanoparticle composition or at least one cyclic Group IVA compound to form a thin film, (ii) coating the thin film with the other, and (iii) curing the coated thin film to form a semiconducting thin film. The semiconducting thin film includes a sintered mixture of semiconductor nanoparticles in hydrogenated, at least partially amorphous Si and/or Ge. The thin film exhibits improved conductivity,

d., adhesion and/or carrier mobility relative to an otherwise identical structure made by an identical process, but without either the semiconductor nanoparticles or the hydrogenated Group IVA element polymer. The present invention advantageously provides semiconducting thin film structures having qualities suitable for use in electronics applications, such as display devices or RF ID tags, while enabling high-throughput printing processes that form such thin films in seconds or minutes, rather than hours or days as with conventional photolithog. processes.

ST semiconductor nanostructure fabrication

IT Polymers, uses
RL: MOA (Modifier or additive use); USES (Uses)
(Group IVA compound; in fabrication of semiconductor nanostructures)

IT Amides, processes
Esters, processes
Sulfoxides
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(aliphatic; in fabrication of semiconductor nanostructures)

IT Functional groups
(aralkyl group; in fabrication of semiconductor nanostructures)

IT Halogens
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(atomic; in fabrication of semiconductor nanostructures)

IT Group IVA element compounds
RL: CPS (Chemical process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(cyclic and polymers, precursors; in fabrication of semiconductor nanostructures)

IT Ethers, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(cyclic; in fabrication of semiconductor nanostructures)

IT Coating process
(dip; in fabrication of semiconductor nanostructures)

IT Interconnections, electric
Optical imaging devices
Semiconductor nanostructures
(fabrication of semiconductor nanostructures)

IT Alkanes, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(halo, haloalkanes; in fabrication of semiconductor nanostructures)

IT Alkenes, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(halo, haloalkenes; in fabrication of semiconductor nanostructures)

IT Alkyl groups
Binders
Coating process
Drying
Embossing
Heat treatment
Ink-jet printing
Inks
Lithography
Photolysis
Photoresists

Reducing agents
Reduction
Semiconductor films
Sintering
Solvents
Stencils
Surfactants
Thickening agents
(in fabrication of semiconductor nanostructures)

IT Alcohols, processes
Metal alkoxides
Thiols, processes
RL: CPS (Chemical process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(in fabrication of semiconductor nanostructures)

IT Alkanes, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(in fabrication of semiconductor nanostructures)

IT Alkenes, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(in fabrication of semiconductor nanostructures)

IT Aromatic hydrocarbons, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(in fabrication of semiconductor nanostructures)

IT Ethers, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(in fabrication of semiconductor nanostructures)

IT Coating materials
(passivating; in fabrication of semiconductor nanostructures)

IT Inks
(printing; in fabrication of semiconductor nanostructures)

IT Thiols, processes
RL: CPS (Chemical process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(salts; in fabrication of semiconductor nanostructures)

IT Nanoparticles
(semiconductor; in fabrication of semiconductor nanostructures)

IT Coating process
(spin; in fabrication of semiconductor nanostructures)

IT Coating process
(spray; in fabrication of semiconductor nanostructures)

IT Printing (nonimpact)
(stenciling; in fabrication of semiconductor nanostructures)

IT Salts, processes
RL: CPS (Chemical process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(thiol; in fabrication of semiconductor nanostructures)

IT 1333-74-0, Hydrogen, uses
RL: MOA (Modifier or additive use); USES (Uses)
(germanium and silicon dopant; in fabrication of semiconductor nanostructures)

IT 7440-21-3D, Silicon, cyclic or polymeric compds. 7440-56-4D, Germanium, cyclic or polymeric compds.
RL: CPS (Chemical process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(in fabrication of semiconductor nanostructures)

IT 7440-21-3, Silicon, processes 7440-56-4, Germanium, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(in fabrication of semiconductor nanostructures)

L6 ANSWER 21 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:34494 CAPLUS
DN 142:123186
ED Entered STN: 14 Jan 2005
TI Photodefinable polymer buffer coating for semiconductor applications
IN Meagley, Robert P.; Hirano, Takashi; Goodner, Michael D.
PA USA
SO U.S. Pat. Appl. Publ., 3 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM G03C001-76
INCL 430270100
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 76
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2005008966	A1	20050113	US 2003-616895	20030710
PRAI US 2003-616895		20030710		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2005008966	ICM	G03C001-76
	INCL	430270100
	IPCI	G03C0001-76 [ICM,7]
	IPCR	G03C0001-76 [I,C*]; G03C0001-76 [I,A]
	NCL	430/270.100

AB A polymer system for semiconductor applications may be formed by blending a filler material including zirconia or silica and a polybenzoxazole precursor to produced a coating for photoinduced patterning. The filler may be chosen so as not to adversely affect the photopatterning of the resulting system and, in some embodiments, may improve the mech. or chemical properties of the resulting system.
ST photopatterning polymer buffer coating semiconductor device fabrication photoresist
IT Fillers
Integrated circuits
Photoresists
Semiconductor device fabrication
(photopatterning polymer buffer coating for semiconductor applications containing polybenzoxazole precursor and filler particles)
IT Polybenzoxazoles
RL: TEM (Technical or engineered material use); USES (Uses)
(photopatterning polymer buffer coating for semiconductor applications containing polybenzoxazole precursor and filler particles)
IT 1314-23-4, Zirconia, uses 7631-86-9, Silica, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(filler; photopatterning polymer buffer coating for semiconductor applications containing polybenzoxazole precursor and filler particles)

L6 ANSWER 22 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:1019915 CAPLUS
DN 141:426957

ED Entered STN: 26 Nov 2004
TI Abrasive particles having coatings with tortuous surface topography
IN Chen, Zheng; Goetz, Richard John
PA Diamond Innovations, Inc., USA
SO PCT Int. Appl., 22 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM B24D003-06
ICS B24D018-00
CC 57-7 (Ceramics)
Section cross-reference(s): 38, 55, 56
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004101225	A1	20041125	WO 2004-US14628	20040510
	WO 2004101225	B1	20050113		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 2005022457	A1	20050203	US 2004-842184	20040510
	EP 1622745	A1	20060208	EP 2004-751826	20040510
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
	CN 1784292	A	20060607	CN 2004-80012541	20040510
PRAI	US 2003-469285P	P	20030509		
	WO 2004-US14628	W	20040510		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2004101225	ICM	B24D003-06
	ICS	B24D018-00
	IPCI	B24D0003-06 [ICM,7]; B24D0003-04 [ICM,7,C*]; B24D0018-00 [ICS,7]
	IPCR	B23D0061-00 [I,C*]; B23D0061-18 [I,A]; B24D0003-04 [I,C*]; B24D0003-06 [I,A]; B24D0018-00 [I,A]; B24D0018-00 [I,C*]
	ECLA	B23D061/18; B24D003/06; B24D018/00
US 2005022457	IPCI	B24D0011-00 [ICM,7]; B24D0003-00 [ICS,7]; B24D0003-06 [ICS,7]; B24D0003-04 [ICS,7,C*]
	IPCR	B23D0061-00 [I,C*]; B23D0061-18 [I,A]; B24D0003-04 [I,C*]; B24D0003-06 [I,A]; B24D0018-00 [I,A]; B24D0018-00 [I,C*]
	NCL	051/307.000; 051/295.000; 051/308.000; 051/309.000
	ECLA	B23D061/18; B24D003/06; B24D018/00
EP 1622745	IPCI	B24D0003-06 [ICM,7]; B24D0003-04 [ICM,7,C*]; B24D0018-00 [ICS,7]
	IPCR	B23D0061-00 [I,C*]; B23D0061-18 [I,A]; B24D0003-04 [I,C*]; B24D0003-06 [I,A]; B24D0018-00 [I,C*]; B24D0018-00 [I,A]
	ECLA	B23D061/18; B24D003/06; B24D018/00
CN 1784292	IPCI	B24D0003-06 [I,A]; B24D0003-04 [I,C*]; B24D0018-00 [I,A]
	ECLA	B23D061/18; B24D003/06; B24D018/00

AB The present invention relates to abrasive composites having improved abrasive particle retention due to unique coating designs. The present invention describes coated abrasive particles having tortuous surface

topog., a process for producing such coated abrasive particles, and products comprising such coated abrasive particles. The coated abrasive particles have an outer layer coating with highly tortuous surface comprising about 5 spikes and have a tortuosity of at least about 1.1. The coating may be in multilayers. The coated abrasive particles may be used in composites including metal/metal alloy matrix composites, ceramic/glass matrix composites, and polymer based matrix composites. Although the invention is described with reference to cutting and grinding tools, the coated particles described may be used in connection with a variety of composite materials and articles. Providing a coated particles with a tortuous surface varies the orientation of the interface relative to the global shear stress direction along the interface of the coated abrasive particles and a matrix. As a result, the mech. interlock force resulting from the increased frictional force strengthens the interfacial bonding and resist interface movement, for increased abrasive product life, improved abrasive product performance, and increased particle retention within the matrix material.

ST abrasive particle coating tortuous surface topog matrix bonding multilayer; grinding tool abrasive particle coating tortuous surface matrix bonding; cutting tool abrasive particle coating tortuous surface matrix bonding

IT Electrodeposition
Grinding wheels
Surface structure
(abrasive particles having coatings with tortuous surface topog. for improved bonding with matrix in cutting and grinding tools)

IT Aminoplasts
RL: TEM (Technical or engineered material use); USES (Uses)
(abrasive particles having coatings with tortuous surface topog. for improved bonding with matrix in cutting and grinding tools)

IT Composites
(abrasive; abrasive particles having coatings with tortuous surface topog. for improved bonding with matrix in cutting and grinding tools)

IT Chert
Garnet-group minerals
RL: TEM (Technical or engineered material use); USES (Uses)
(abrasives; abrasive particles having coatings with tortuous surface topog. for improved bonding with matrix in cutting and grinding tools)

IT Saws
(blades; abrasive particles having coatings with tortuous surface topog. for improved bonding with matrix in cutting and grinding tools)

IT Vapor deposition process
(chemical; abrasive particles having coatings with tortuous surface topog. for improved bonding with matrix in cutting and grinding tools)

IT Abrasives
(coated; abrasive particles having coatings with tortuous surface topog. for improved bonding with matrix in cutting and grinding tools)

IT Borides
Carbides
Intermetallic compounds
Nitrides
Oxides (inorganic), uses
RL: MOA (Modifier or additive use); USES (Uses)
(coatings; abrasive particles having coatings with tortuous surface topog. for improved bonding with matrix in cutting and grinding tools)

IT Coating process
(electroless; abrasive particles having coatings with tortuous surface topog. for improved bonding with matrix in cutting and grinding tools)

IT Adhesion, physical
(interfacial; abrasive particles having coatings with tortuous surface topog. for improved bonding with matrix in cutting and grinding tools)

IT Epoxy resins, uses
Polyamides, uses
Polybenzoxazoles
Polycarbonates, uses

Polyesters, uses
Polyimides, uses
Polyketones
RL: TEM (Technical or engineered material use); USES (Uses)
(matrix; abrasive particles having coatings with tortuous surface topog. for improved bonding with matrix in cutting and grinding tools)

IT Epoxides
RL: TEM (Technical or engineered material use); USES (Uses)
(polyepoxides, matrix; abrasive particles having coatings with tortuous surface topog. for improved bonding with matrix in cutting and grinding tools)

IT Blades
(saw; abrasive particles having coatings with tortuous surface topog. for improved bonding with matrix in cutting and grinding tools)

IT Coating process
(thermal spraying, high-velocity oxy-fuel deposition; abrasive particles having coatings with tortuous surface topog. for improved bonding with matrix in cutting and grinding tools)

IT 409-21-2, Silicon carbide (SiC), uses 1303-86-2D, Boron oxide, nonstoichiometric 7782-40-3, Diamond, uses 12415-34-8, Emery
RL: TEM (Technical or engineered material use); USES (Uses)
(abrasives; abrasive particles having coatings with tortuous surface topog. for improved bonding with matrix in cutting and grinding tools)

IT 7439-89-6, Iron, uses 7440-02-0, Nickel, uses 7440-32-6, Titanium, uses 7440-33-7, Tungsten, uses 7440-48-4, Cobalt, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(coatings/matrix; abrasive particles having coatings with tortuous surface topog. for improved bonding with matrix in cutting and grinding tools)

IT 7439-98-7, Molybdenum, uses 7440-05-3, Palladium, uses 7440-42-8, Boron, uses 7440-47-3, Chromium, uses 7440-66-6, Zinc, uses 7723-14-0, Phosphorus, uses 12007-00-0, Nickel boride (NiB)
RL: MOA (Modifier or additive use); USES (Uses)
(coatings; abrasive particles having coatings with tortuous surface topog. for improved bonding with matrix in cutting and grinding tools)

IT 10043-11-5, Boron nitride, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(cubic, abrasives; abrasive particles having coatings with tortuous surface topog. for improved bonding with matrix in cutting and grinding tools)

IT 7440-31-5, Tin, uses 7440-50-8, Copper, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(matrix/coatings; abrasive particles having coatings with tortuous surface topog. for improved bonding with matrix in cutting and grinding tools)

IT 1344-28-1, Alumina, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(matrix/zirconia-alumina abrasives; abrasive particles having coatings with tortuous surface topog. for improved bonding with matrix in cutting and grinding tools)

IT 108-78-1D, Melamine, polymers 1309-48-4, Magnesium oxide (MgO), uses 7631-86-9, Silica, uses 9011-05-6, Formaldehyde-urea copolymer 12036-01-0, Zirconium oxide (ZrO) 25212-74-2, Poly(phenylene sulfide)
RL: TEM (Technical or engineered material use); USES (Uses)
(matrix; abrasive particles having coatings with tortuous surface topog. for improved bonding with matrix in cutting and grinding tools)

IT 1314-23-4, Zirconia, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(zirconia-alumina abrasives; abrasive particles having coatings with tortuous surface topog. for improved bonding with matrix in cutting and grinding tools)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

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(3) Farkas, P; US 3650714 A 1972 CAPLUS
(4) Iacovangelo, C; US 5190796 A 1993 CAPLUS
(5) McEachron, R; US 5232469 A 1993 CAPLUS
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L6 ANSWER 23 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:962236 CAPLUS
DN 143:180118
ED Entered STN: 12 Nov 2004
TI Preparation and Characterization of Nanoscale Semiconductor Particles of ZnS, CdS, and PbCrO4 in Polymer-Surfactant Gel Matrix
AU Chakraborty, Indranil; Moulik, Satya Priya
CS Department of Chemistry, Centre for Surface Science, Jadavpur University, Kolkata, India
SO Journal of Dispersion Science and Technology (2004), 25(6), 849-859
CODEN: JDTEDS; ISSN: 0193-2691
PB Marcel Dekker, Inc.
DT Journal
LA English
CC 66-3 (Surface Chemistry and Colloids)
Section cross-reference(s): 43, 73
AB The preparation of fairly monodisperse nanoparticles of zinc sulfide, cadmium sulfide, and lead chromate using a polymer-surfactant gel matrix as the template to resist particle clustering is been described. A hydrophobically modified polymer (chloride salt of N,N'-dimethyl-N-Me derivative of hydroxymethyl cellulose, JR 400) and a surfactant (sodium dodecyl sulfate, SDS) have been used to form the gel matrix. The nanodispersions formed in the gel at different precursor concns. have been characterized by the TEM and SEM. Their UV-visible and fluorescence spectra have been measured and analyzed. The band gaps and other characteristic properties of the nanomaterials have been estimated from the spectral data. A procedure for isolation of the products from the gel is described.
ST sulfide zinc cadmium lead chromate nanoparticle prepn polymer matrix
IT Surfactants
(anionic; preparation and characterization of nanoscale semiconductor particles of ZnS, CdS , and PbCrO4 in polymer-surfactant gel matrix)
IT Band gap
(optical; preparation and characterization of nanoscale semiconductor particles of ZnS, CdS , and PbCrO4 in polymer-surfactant gel matrix)
IT Dissolution
Fluorescence
Gels
Nanoparticles
Particle size
Precipitation (chemical)
Semiconductor materials
UV and visible spectra
(preparation and characterization of nanoscale semiconductor particles of ZnS, CdS, and PbCrO4 in polymer-surfactant gel matrix)
IT Particles
(spherical; preparation and characterization of nanoscale semiconductor particles of ZnS, CdS , and PbCrO4 in polymer-surfactant gel matrix)
IT 151-21-3P, SDS, properties 1306-23-6P, Cadmium sulfide, properties 1314-98-3P, Zinc sulfide, properties 7758-97-6P 81859-24-7P, JR 400
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)

(preparation and characterization of nanoscale semiconductor particles of ZnS, CdS, and PbCrO4 in polymer-surfactant gel matrix)

IT 67-56-1, Methanol, uses
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; preparation and characterization of nanoscale semiconductor particles of ZnS, CdS , and PbCrO4 in polymer-surfactant gel matrix)

RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L6 ANSWER 24 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2004:906201 CAPLUS
DN 142:117177
ED Entered STN: 29 Oct 2004

TI Tribological behavior of Langmuir-Blodgett films of polymerized 22-tricosenoic acid and 22-tricosenoic acid/CdS nanoparticles

AU Zhang, Pingyu; Xue, Qunji; Du, Zuliang
CS State Key Laboratory of Solid Lubrication, Lanzhou Institute of Chemical Physics, Lanzhou, Peop. Rep. China

SO Lubrication Science (2004), 16(4), 377-383
CODEN: LUSCEN; ISSN: 0954-0075
PB Leaf Coppin Publishing Ltd.
DT Journal
LA English
CC 51-8 (Fossil Fuels, Derivatives, and Related Products)

AB Langmuir-Blodgett (LB) films of 22-tricosenoic acid and of 22-tricosenoic acid polymerized in the presence of an electron beam, and in situ composite LB films of 22-tricosenoic acid/CdS were prepared The friction and wear behavior of the LB films were investigated with a ball-on-block one-way reciprocating friction tester. The structures and morphologies of the LB films were analyzed and observed by using atomic force microscopy. The wear resistance of the LB films was increased after polymerization of the acid, and the composite LB film of 22-tricosenoic acid/CdS showed better wear resistance because the inorg. nanocores of CdS acted to resist wear and to carry load. The LB film of the acid experienced structural changes during friction.

ST langmuir Blodgett film lubricant tricosenoic acid polymer cadmium sulfide
IT Langmuir-Blodgett films
Lubricants
(tribol. behavior of Langmuir-Blodgett films of polymerized 22-tricosenoic acid and 22-tricosenoic acid/CdS nanoparticles)
IT 1306-23-6, Cadmium sulfide, processes 65256-71-5
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(tribol. behavior of Langmuir-Blodgett films of polymerized 22-tricosenoic acid and 22-tricosenoic acid/CdS nanoparticles)
RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
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(2) Carpick, R; Chem Rev 1997, V97, P1163 CAPLUS
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L6 ANSWER 25 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:355543 CAPLUS
DN 141:305492
ED Entered STN: 03 May 2004
TI Method of removing a photoresist layer on a semiconductor wafer
IN Chang, Ching-Yu
PA Macronix International Co. Ltd., Taiwan
SO Taiwan, 3 pp.
CODEN: TWXXA5
DT Patent
LA Chinese
IC ICM H01L021-30
CC 76-3 (Electric Phenomena)
Section cross-reference(s): 74
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI TW 487980	B	20020521	TW 2001-90114364	20010614
PRAI TW 2001-90114364		20010614		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
TW 487980	ICM	H01L021-30
	IPCI	H01L0021-30 [ICM,7]; H01L0021-02 [ICM,7,C*]
	IPCR	H01L0021-02 [I,C*]; H01L0021-30 [I,A]

AB A method of removing a photoresist layer on a semiconductor wafer starts with placing the semiconductor wafer into a dry strip chamber. A dry stripping process is performed to remove the photoresist layer on the semiconductor wafer. The semiconductor wafer is then placed on a rotator of a wet clean chamber and horizontally rotated. A 1st cleaning process is performed to remove polymers and organic components on a surface of the semiconductor wafer. Then a 2nd cleaning process is performed as well to remove polymers and particles on the surface of the semiconductor wafer. By performing a 3rd cleaning process, a 1st cleaning solution employed in the 1st cleaning process and a 2nd cleaning solution employed in the 2nd cleaning process are removed from the surface of the semiconductor wafer. Finally, the semiconductor wafer is spun dry at the end of the method.
ST stripping photoresist semiconductor device fabrication

IT Cleaning
Photoresists
Semiconductor device fabrication
(method of removing a photoresist layer on a semiconductor wafer)
IT Polymers, processes
RL: REM (Removal or disposal); PROC (Process)
(method of removing a photoresist layer on a semiconductor wafer)

L6 ANSWER 26 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:293359 CAPLUS
DN 140:313441
ED Entered STN: 09 Apr 2004
TI Method for polishing organic film on semiconductor substrate by use of resin particles, and slurry
IN Takayasu, Jun; Murakami, Satoshi
PA Kabushiki Kaisha Toshiba, Japan
SO U.S. Pat. Appl. Publ., 15 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM H01L021-302
ICS H01L021-461
INCL 438691000
CC 76-3 (Electric Phenomena)
Section cross-reference(s): 38, 48, 66
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004067652	A1	20040408	US 2003-353962	20030130
	US 7037839	B2	20060502		
	TW 245336	B	20051211	TW 2003-92126661	20030926
	CN 1497681	A	20040519	CN 2003-160170	20030929
	KR 2004030350	A	20040409	KR 2003-68158	20031001
	US 2006006142	A1	20060112	US 2005-227159	20050916
PRAI	JP 2002-290106	A	20021002		
	US 2003-353962	A3	20030130		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2004067652	ICM	H01L021-302
	ICS	H01L021-461
	INCL	438691000
	IPCI	H01L0021-302 [I,A]; H01L0021-02 [I,C*]
	IPCR	B24B0037-00 [I,C*]; B24B0037-00 [I,A]; C09G0001-00 [I,C*]; C09G0001-02 [I,A]; H01L0021-02 [I,C*]; H01L0021-304 [I,A]; H01L0021-3105 [I,A]; H01L0021-312 [N,A]; H01L0021-334 [I,A]
	NCL	438/691.000; 257/E21.242; 257/E21.259
	ECLA	C09G001/02; H01L021/3105P; H01L021/334C
TW 245336	IPCI	H01L0021-304 [ICS,7]; H01L0021-02 [ICS,7,C*]
	IPCR	B24B0037-00 [I,C*]; C09G0001-00 [I,C*]; H01L0021-02 [I,C*]; B24B0037-00 [I,A]; C09G0001-02 [I,A]; H01L0021-304 [I,A]; H01L0021-3105 [I,A]; H01L0021-312 [N,A]; H01L0021-334 [I,A]
CN 1497681	IPCI	H01L0021-304 [ICM,7]; H01L0021-02 [ICM,7,C*]; B24B0001-00 [ICS,7]; B24B0037-00 [ICS,7]; C09K0003-14 [ICS,7]; C08J0005-14 [ICS,7]
	IPCR	B24B0037-00 [I,C*]; B24B0037-00 [I,A]; C09G0001-00 [I,C*]; C09G0001-02 [I,A]; H01L0021-02 [I,C*]; H01L0021-304 [I,A]; H01L0021-3105 [I,A]; H01L0021-312 [N,A]; H01L0021-334 [I,A]
	ECLA	C09G001/02; H01L021/3105P; H01L021/334C
KR 2004030350	IPCI	H01L0021-304 [ICM,7]; H01L0021-02 [ICM,7,C*]

ECLA C09G001/02; H01L021/3105P; H01L021/334C
US 2006006142 IPCI B44C0001-22 [I,A]; C09K0013-00 [I,A]; H01L0021-302 [I,A]; H01L0021-02 [I,C*]
IPCR B24B0037-00 [I,C*]; B24B0037-00 [I,A]; B44C0001-22 [I,A]; B44C0001-22 [I,C]; C09G0001-00 [I,C*]; C09G0001-02 [I,A]; C09K0013-00 [I,C]; C09K0013-00 [I,A]; H01L0021-02 [I,C]; H01L0021-302 [I,A]; H01L0021-304 [I,A]; H01L0021-3105 [I,A]; H01L0021-312 [N,A]; H01L0021-334 [I,A]
NCL 216/088.000; 216/089.000; 252/079.100; 257/E21.242; 257/E21.259; 438/692.000
ECLA C09G001/02; H01L021/3105P; H01L021/334C

AB According to the polishing by use of the slurry of the foregoing constitution, the organic film is polished without damaging a foundation layer of the organic film which is a polishing target, whereby its surface can be flattened in a good condition. A method for polishing an organic film, comprising polishing an exposed organic film provided on a semiconductor substrate using slurry containing resin particles.

ST polishing org film semiconductor resin particle slurry

IT Polishing
(chemical-mech.; polishing organic film on semiconductor substrate by use of resin particles, and slurry)

IT Polishing
Resists
Slurries
(polishing organic film on semiconductor substrate by use of resin particles, and slurry)

IT Resins
RL: TEM (Technical or engineered material use); USES (Uses)
(polishing organic film on semiconductor substrate by use of resin particles, and slurry)

IT 7727-37-9D, Nitrogen, organic compds. 9003-53-6, Polystyrene
RL: TEM (Technical or engineered material use); USES (Uses)
(polishing organic film on semiconductor substrate by use of resin particles, and slurry)

RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L6 ANSWER 27 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2003:561966 CAPLUS
DN 139:314369
ED Entered STN: 23 Jul 2003
TI Fabrication and characterization of stable ultrathin film micropatterns containing CdS nanoparticles
AU Lu, Conghua; Wu, Nianzu; Wei, Fang; Zhao, Xinsheng; Jiao, Xiaoming; Xu, Jun; Luo, Chuanqiou; Cao, Weixiao
CS College of Chemistry and Molecular Engineering, Peking University, Beijing, 100871, Peop. Rep. China
SO Advanced Functional Materials (2003), 13(7), 548-552
CODEN: AFMDC6; ISSN: 1616-301X

PB Wiley-VCH Verlag GmbH & Co. KGaA
DT Journal
LA English
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 66
AB Stable, ultrathin micropatterns containing CdS nanoparticles (CdS-NPs) were fabricated in a two-step process. In the first step, a precursor film was built-up by the layer-by-layer electrostatic self-assembly of photosensitive nitro-diazo resin and mercaptoacetic acid capped CdS nanoparticles. In the second step, the film was selectively exposed to UV light through a photomask and developed in an aqueous solution of sodium dodecylsulfate (SDS). The formation of covalently linked micropatterns was based on the different solubilities of the irradiated and non-irradiated parts of the film in the developer. Namely, the irradiated regions were crosslinked and insol., whereas the non-irradiated regions, linked with ionic bonds, were removed by the SDS solution The resultant patterns were systematically characterized with atomic force microscopy, field emission SEM, optical microscopy, and XPS.
ST cadmium sulfide nanoparticle ultrathin film photolithog
IT Nanoparticles
Photolysis
Self-assembly
Ultrathin films
(fabrication and characterization of stable ultrathin film micropatterns containing CdS nanoparticles)
IT Lithography
(micron; fabrication and characterization of stable ultrathin film micropatterns containing CdS nanoparticles)
IT Photoresists
(nitro-diazo resin; fabrication and characterization of stable ultrathin film micropatterns containing CdS nanoparticles)
IT Polymers, processes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(nitro-diazo resin; fabrication and characterization of stable ultrathin film micropatterns containing CdS nanoparticles)
IT Crosslinking
(photochem.; fabrication and characterization of stable ultrathin film micropatterns containing CdS nanoparticles)
IT 68-11-1, Mercaptoacetic acid, processes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(capping layer; fabrication and characterization of stable ultrathin film micropatterns containing CdS nanoparticles)
IT 151-21-3, SDS, processes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(developer solution; fabrication and characterization of stable ultrathin film micropatterns containing CdS nanoparticles)
IT 1306-23-6P, Cadmium sulfide, processes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(fabrication and characterization of stable ultrathin film micropatterns containing CdS nanoparticles)
IT 14808-60-7, Quartz, processes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(substrate; fabrication and characterization of stable ultrathin film micropatterns containing CdS nanoparticles)
RE.CNT 65 THERE ARE 65 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L6 ANSWER 28 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2003:239949 CAPLUS
DN 138:264108
ED Entered STN: 28 Mar 2003
TI Metal particles, manufacture of the particles, resin composition containing the particles, adhesive film made of the composition, and semiconductor device using the composition
IN Inada, Teiichi; Hayashi, Hiroki; Nakamura, Hidehiro
PA Hitachi Chemical Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B22F009-04
ICS C08K003-08; C08L101-00; C09J007-00; C23F001-00; H01L021-52
CC 76-3 (Electric Phenomena)
Section cross-reference(s): 38, 56
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2003089807	A	20030328	JP 2001-279497	20010914
PRAI JP 2001-279497		20010914		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2003089807	ICM	B22F009-04
	ICS	C08K003-08; C08L101-00; C09J007-00; C23F001-00; H01L021-52
	IPCI	B22F0009-04 [ICM,7]; B22F0009-02 [ICM,7,C*]; C08K0003-08 [ICS,7]; C08K0003-00 [ICS,7,C*]; C08L0101-00 [ICS,7]; C09J0007-00 [ICS,7]; C23F0001-00 [ICS,7]; H01L0021-52 [ICS,7]; H01L0021-02 [ICS,7,C*]
	IPCR	C08K0003-00 [I,C*]; C08K0003-08 [I,A]; B22F0009-02 [I,C*]; B22F0009-04 [I,A]; C08L0101-00 [I,C*]; C08L0101-00 [I,A]; C09J0007-00 [I,C*]; C09J0007-00 [I,A]; C09J0009-00 [I,C*]; C09J0009-02 [I,A]; C09J0011-02 [I,C*]; C09J0011-04 [I,A]; C23F0001-00 [I,C*]; C23F0001-00 [I,A]; H01L0021-02 [I,C*]; H01L0021-52 [I,A]

AB The metal particles are those manufactured by the process involving removal of partial areas of a metal foil, preferably by photolithog. etching, to leave the metal particles with desired shapes. The thermosetting resin and/or thermoplastic resin composition contains the metal particles, which is molded into a film to give the adhesive film. The semiconductor device is that having a structure of semiconductor elements and a support bonded through the adhesive film showing good thermal and elec. conductivity
ST metal particle manuf foil photolithog etching; thermoplastic thermosetting resin metal particle; adhesive film polymer metal particle; semiconductor device resin adhesive film; thermal elec cond semiconductor device adhesive
IT Electrodeposition
Machining
(for preparation of metal particles with desired shape obtained from metal foil)
IT Etching
Photolithography
(metal particles with desired shape obtained from metal foil by photolithog. and etching)
IT Adhesive films
Electric conductors
Electronic packaging process
Heat-resistant materials

Semiconductor devices
Thermal conductors
(metal particles with desired shape obtained from metal foil for resin composition for adhesive film for semiconductor device)

IT Epoxy resins, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(phenol novolak-crosslinked; metal particles with desired shape obtained from metal foil for resin composition for adhesive film for semiconductor device)

IT Plastics, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(thermosetting; metal particles with desired shape obtained from metal foil for resin composition for adhesive film for semiconductor device)

IT 172528-11-9P, H 1-PP 101-YDF 170-YL 980 copolymer
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(metal particles with desired shape obtained from metal foil for resin composition for adhesive film for semiconductor device)

IT 7440-50-8, GTS 35, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(metal particles with desired shape obtained from metal foil for resin composition for adhesive film for semiconductor device)

IT 216973-89-6, NCP 225
RL: TEM (Technical or engineered material use); USES (Uses)
(photoresist; metal particles with desired shape obtained from metal foil by photolithog. and etching)

L6 ANSWER 29 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2002:978451 CAPLUS
DN 138:48393
ED Entered STN: 29 Dec 2002
TI Method of removing a photoresist layer on a semiconductor wafer
IN Chang, Ching-yu
PA Taiwan
SO U.S. Pat. Appl. Publ., 5 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM H01L021-31
INCL 438784000
CC 76-3 (Electric Phenomena)
Section cross-reference(s): 74
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002197887	A1	20021226	US 2001-885038	20010621
	US 6579810	B2	20030617		
PRAI	US 2001-885038		20010621		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2002197887	ICM	H01L021-31
	INCL	438784000
	IPCI	H01L0021-31 [ICM,7]; H01L0021-02 [ICM,7,C*]
	IPCR	G03F0007-42 [I,C*]; G03F0007-42 [I,A]; H01L0021-02 [N,C*]; H01L0021-311 [N,A]
	NCL	438/784.000; 257/E21.255; 257/E21.256
	ECLA	G03F007/42L2

AB A method of removing a photoresist layer on a semiconductor

wafer with high efficiency starts with placing the semiconductor wafer into a dry strip chamber. A dry stripping process was performed to remove the photoresist layer on the semiconductor wafer. The semiconductor wafer is then placed on a rotator of a wet clean chamber and horizontally rotated. A 1st cleaning process was performed to remove polymers and organic components on a surface of the semiconductor wafer. Then a 2nd cleaning process was performed as well to remove polymers and particles on the surface of the semiconductor wafer. By performing a 3rd cleaning process, a 1st cleaning solution employed in the 1st cleaning process and a 2nd cleaning solution employed in the 2nd cleaning process are removed from the surface of the semiconductor wafer. Finally, the semiconductor wafer is spun dry at the end of the method.

ST stripping photoresist semiconductor device fabrication

IT Ashing
Cleaning
Photoresists
Semiconductor device fabrication
(method of removing photoresist layer on semiconductor wafer)

IT Polymers, processes
RL: REM (Removal or disposal); PROC (Process)
(method of removing photoresist layer on semiconductor wafer)

IT Ashing
(plasma; method of removing photoresist layer on semiconductor wafer)

IT Drying
(spin; method of removing photoresist layer on semiconductor wafer)

IT 1336-21-6, Ammonium hydroxide 7664-93-9, Sulfuric acid, processes 7722-84-1, Hydrogen peroxide, processes 7732-18-5, Water, processes 7782-44-7, Oxygen, processes 10028-15-6, Ozone, processes 136376-36-8, SC 1
RL: CPS (Chemical process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(method of removing photoresist layer on semiconductor wafer)

L6 ANSWER 30 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2002:540174 CAPLUS
DN 137:116952
ED Entered STN: 19 Jul 2002
TI Photomask and photoresists patterning method for semiconductor device fabrication
IN Hattori, Takashi; Gotoh, Yasuko; Satoh, Hidetoshi; Tanaka, Toshihiko; Shiraishi, Hiroshi
PA Hitachi, Ltd., Japan
SO U.S. Pat. Appl. Publ., 31 pp., Cont. of U.S. Ser. No. 26,973.
CODEN: USXXCO
DT Patent
LA English
IC ICM H01J037-08
ICS G21K005-10; G03C005-00; G03F009-00
INCL 430005000
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 76
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002094483	A1	20020718	US 2002-72880	20020212
	US 6703171	B2	20040309		
	JP 2002202584	A	20020719	JP 2000-401154	20001228
	TW 516112	B	20030101	TW 2001-90127169	20011101
	US 2002086223	A1	20020704	US 2001-26973	20011227
	US 6927002	B2	20050809		

	CN 1365135	A	20020821	CN 2001-144074	20011228
PRAI	JP 2000-401154	A	20001228		
	US 2001-26973	A1	20011227		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2002094483	ICM	H01J037-08
	ICS	G21K005-10; G03C005-00; G03F009-00
	INCL	430005000
	IPCI	H01J0037-08 [ICM,7]; G21K0005-10 [ICS,7]; G03C0005-00 [ICS,7]; G03F0009-00 [ICS,7]
	IPCR	G03F0001-00 [I,C*]; G03F0001-00 [I,A]; G03F0001-08 [N,C*]; G03F0001-08 [N,A]; G03F0001-10 [I,C*]; G03F0001-10 [I,A]
	NCL	430/005.000; 250/492.220; 430/322.000; 430/324.000
	ECLA	G03F001/00G; G03F001/00G6; G03F001/10
JP 2002202584	IPCI	G03F0001-08 [ICM,7]; G03F0001-08 [ICS,7]; G03F0001-14 [ICS,7]; G03F0007-004 [ICS,7]; G03F0007-20 [ICS,7]; H01L0021-027 [ICS,7]; H01L0021-02 [ICS,7,C*]
	IPCR	G03F0007-004 [I,C*]; G03F0007-004 [I,A]; G03F0001-00 [I,C*]; G03F0001-00 [I,A]; G03F0001-08 [I,C*]; G03F0001-08 [I,A]; G03F0001-10 [I,C*]; G03F0001-10 [I,A]; G03F0001-14 [I,C*]; G03F0001-14 [I,A]; G03F0007-20 [I,C*]; G03F0007-20 [I,A]; H01L0021-02 [I,C*]; H01L0021-027 [I,A]
TW 516112	IPCI	H01L0021-30 [ICM,7]; H01L0021-027 [ICS,7]; H01L0021-02 [ICS,7,C*]
	IPCR	G03F0007-004 [I,C*]; G03F0007-004 [I,A]; G03F0001-00 [I,C*]; G03F0001-00 [I,A]; G03F0001-08 [I,C*]; G03F0001-08 [I,A]; G03F0001-10 [I,C*]; G03F0001-10 [I,A]; G03F0001-14 [I,C*]; G03F0001-14 [I,A]; G03F0007-20 [I,C*]; G03F0007-20 [I,A]; H01L0021-02 [I,C*]; H01L0021-027 [I,A]
US 2002086223	IPCI	G03F0009-00 [ICM,7]
	IPCR	G03F0007-004 [I,C*]; G03F0007-004 [I,A]; G03F0001-00 [I,C*]; G03F0001-00 [I,A]; G03F0001-08 [I,C*]; G03F0001-08 [I,A]; G03F0001-10 [I,C*]; G03F0001-10 [I,A]; G03F0001-14 [I,C*]; G03F0001-14 [I,A]; G03F0007-20 [I,C*]; G03F0007-20 [I,A]; H01L0021-02 [I,C*]; H01L0021-027 [I,A]
	NCL	430/005.000
	ECLA	G03F001/00G; G03F001/00G6; G03F001/10
CN 1365135	IPCI	H01L0021-027 [ICM,7]; H01L0021-30 [ICS,7]; H01L0021-02 [ICS,7,C*]; G03F0001-00 [ICS,7]
	IPCR	G03F0007-004 [I,C*]; G03F0007-004 [I,A]; G03F0001-00 [I,C*]; G03F0001-00 [I,A]; G03F0001-08 [I,C*]; G03F0001-08 [I,A]; G03F0001-10 [I,C*]; G03F0001-10 [I,A]; G03F0001-14 [I,C*]; G03F0001-14 [I,A]; G03F0007-20 [I,C*]; G03F0007-20 [I,A]; H01L0021-02 [I,C*]; H01L0021-027 [I,A]
	ECLA	G03F001/00G; G03F001/00G6; G03F001/10

AB The present invention relates to develop a small quantity of various kinds of semiconductor devices in a short time and to realize a photomask suitable to be manufactured at a low cost. A shade pattern of a photomask is constituted by containing nanoparticles such as carbon in an organic film such as a photoresist film. A pattern is transferred to a photoresist on a semiconductor wafer by means of the reduction projection exposure using the photomask. At the time of the above exposure, it is possible to select exposure light within a range of wide wavelengths including i-line, KrF excimer laser beam, ArF excimer laser beam, or the like.

ST photolithog photoresist photomask nanoparticle resin semiconductor device fabrication

IT Nanoparticles

Photomasks (lithographic masks)
Photoresists
(photomask and patterning method for semiconductor device manufacturing)

IT Semiconductor device fabrication
(photomask and photoresists patterning method for)

IT Carbon black, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(photomask and photoresists patterning method for semiconductor device fabrication containing)

IT Photolithography
(vacuum UV; photomask and photoresists patterning method for semiconductor device fabrication)

IT 27029-76-1 66747-40-8, Acrylic acid-2-hydroxyethyl acrylate-methyl methacrylate copolymer 120957-57-5
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(photomask and photoresists patterning method for semiconductor device fabrication containing)

IT 3089-11-0, Hexamethoxymethylmelamine 3524-68-3, Pentaerythritol triacrylate 59269-51-1, Polyhydroxystyrene 159296-87-4, tert-Butylacrylate-p-hydroxystyrene copolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(photomask and photoresists patterning method for semiconductor device fabrication containing)

L6 ANSWER 31 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2002:276233 CAPLUS
DN 136:269641
ED Entered STN: 12 Apr 2002
TI Method of manufacture of colloidal rod particles as nanobarcodes
IN Stonas, Walter; Dietz, Louis J.; Walton, Ian; Natan, Michael J.; Winkler, James L.
PA Surromed, Inc., USA
SO PCT Int. Appl., 51 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C25D005-02
ICS C25D005-10
CC 72-8 (Electrochemistry)
Section cross-reference(s): 56, 76

FAN.CNT 7

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002029136	A1	20020411	WO 2001-US30729	20011002
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 6780301	B1	20040824	US 2000-677203	20001002
	AU 200196460	A	20020415	AU 2001-96460	20011002
	EP 1337694	A1	20030827	EP 2001-977334	20011002
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
PRAI	US 2000-237322P	P	20001002		
	US 2000-677203	A	20001002		
	US 2001-285017P	P	20010419		
	US 1999-157326P	P	19991001		
	US 2000-189151P	P	20000314		

US 2000-190247P	P	20000317
US 2000-194616P	P	20000405
US 2000-212167P	P	20000616
US 2000-598395	A2	20000620
WO 2001-US30729	W	20011002

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2002029136	ICM	C25D005-02
	ICS	C25D005-10
	IPCI	C25D0005-02 [ICM,7]; C25D0005-10 [ICS,7]
	IPCR	B01J0019-00 [I,C*]; B01J0019-00 [I,A]; C25D0001-00 [I,C*]; C25D0001-00 [I,A]
	ECLA	B01J019/00C; C25D001/00
US 6780301	IPCI	C25D0005-02 [ICM,7]
	NCL	205/118.000; 205/122.000
	ECLA	B01J013/00B14; B01J013/00N; B01J019/00C; B01J019/10; B22F001/00A2F; C25D001/00; C25D001/04; G01N033/543D; H01F001/00E11M
AU 200196460	IPCI	C25D0005-02 [ICM,7]; C25D0005-10 [ICS,7]
	IPCR	B01J0019-00 [I,C*]; B01J0019-00 [I,A]; C25D0001-00 [I,C*]; C25D0001-00 [I,A]
EP 1337694	IPCI	C25D0005-02 [ICM,7]; C25D0005-10 [ICS,7]
	IPCR	B01J0019-00 [I,C*]; B01J0019-00 [I,A]; C25D0001-00 [I,C*]; C25D0001-00 [I,A]

AB A method is disclosed for the manufacture of colloidal rod particles as nanobarcodes using a four-layer stack on a silicon wafer substrate (101). The substrate is overlaid with conductive layer, polymeric layer, etch stop layer and photoresist layer. Pores are formed following exposure and development of the photoresist and etching down to the etch stop layer. Pores are formed by a further etching down through polymer layer. Nanoparticles are formed within pores by electrochem. deposition using the conductive layer as the plating electrode. The free-standing nanoparticles are formed by subsequent dissolving of conductive layer forming the nanobarcodes.

ST manufg colloidal rod particle nanobarcode electrodeposition

IT Bar code labels
Nanostructures
(manufacturing colloidal rod particles as nanobarcodes)

IT Dissolution
(of electrodeposited silver in manufacturing colloidal rod particles as nanobarcodes in HNO3 solution)

IT Electrodeposition
(of nanoparticle within pores in manufacturing colloidal rod particles as nanobarcodes)

IT Self-assembly
(of nonoparticls semiconductor/polymer films layers in manufacturing colloidal rod particles as nanobarcodes)

IT Etching
(of photoresist layer to form plurality of pores in manufacturing colloidal rod particles as nanobarcodes)

IT Vapor deposition process
(of silver within pores of porous substrate in manufacturing colloidal rod particles as nanobarcodes)

IT Membranes, nonbiological
(porous alumina; use in manufacturing colloidal rod particles as nanobarcodes)

IT Diodes
(synthesis of rod-shaped diodes from free-standing nanoparticles formed by subsequent dissolving of conductive layer forming nanobarcode)

IT Polycarbonates, uses
RL: NUU (Other use, unclassified); USES (Uses)
(track etched; use in manufacturing colloidal rod particles as nanobarcodes)

IT Sonication
(use for metal nanoparticles electrodeposition within pores coated with

electroconducting materials in manufacturing colloidal rod particles as nanobarcodes)
IT Photolithography
Photoresists
Porous materials
(use in manufacturing colloidal rod particles as nanobarcodes)
IT 1191-43-1, 1,6-Hexanedithiol 7446-08-4, Selenium dioxide 10124-36-4, Cadmium sulfate
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(CdSe electrodeposition of nanoparticle within pores coated with electroconducting materials in manufacturing colloidal rod particles as nanobarcodes, in solution containing)
IT 13463-67-7, Titania, uses
RL: NUU (Other use, unclassified); USES (Uses)
(colloid; self-assembly of nanoparticles TiO2/polyaniline layers in manufacturing colloidal rod particles as nanobarcodes)
IT 7697-37-2, Nitric acid, reactions
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(dissoln. of electrodeposited silver in manufacturing colloidal rod particles
as nanobarcodes in HNO3 solution)
IT 1306-24-7P, Cadmium selenide, processes 7440-02-0P, Nickel, processes 7440-05-3P, Palladium, processes 7440-06-4P, Platinum, processes 7440-22-4P, Silver, processes 7440-48-4P, Cobalt, processes 7440-50-8P, Copper, processes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); PREP (Preparation); PROC (Process)
(electrodeposition of nanoparticle within pores coated with electroconducting materials in manufacturing colloidal rod particles as nanobarcodes)
IT 7440-57-5P, Gold, processes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); PREP (Preparation); PROC (Process)
(electrodeposition of nanoparticle within pores in manufacturing colloidal rod particles as nanobarcodes)
IT 1344-28-1, Alumina, uses
RL: NUU (Other use, unclassified); USES (Uses)
(porous membrane; use in manufacturing colloidal rod particles as nanobarcodes)
IT 25233-30-1, Polyaniline
RL: NUU (Other use, unclassified); USES (Uses)
(self-assembly of nanoparticles TiO2/polyaniline layers in manufacturing colloidal rod particles as nanobarcodes)
IT 109-86-4, 2-Methoxyethanol 546-68-9, Titanium isopropoxide 7647-01-0, Hydrochloric acid, reactions
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(use for preparation of titania colloid for self-assembly of nanoparticles TiO2/polyaniline layers in manufacturing colloidal rod particles as nanobarcodes)
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Allen; US 6334856 B1 2002
(2) Montgomery; US 6093302 A 2000 CAPLUS
(3) Sato; US 5997958 A 1999 CAPLUS
(4) Shultz; US 5985356 A 1999 CAPLUS
(5) Southern; US 5667667 A 1997 CAPLUS

L6 ANSWER 32 OF 47 CAPLUS
AN 2001:710201 CAPLUS
DN 135:265565

ED Entered STN: 28 Sep 2001
TI Resist patterning by etching in fabrication of semiconductor devices
IN Shimizu, Ryu
PA Sanyo Electric Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM H01L021-027
ICS G03F007-075; G03F007-11; G03F007-36; H01L021-3065
CC 76-3 (Electric Phenomena)
Section cross-reference(s): 38

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2001267222	A	20010928	JP 2000-76106	20000317
PRAI JP 2000-76106		20000317		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2001267222	ICM	H01L021-027
	ICS	G03F007-075; G03F007-11; G03F007-36; H01L021-3065
	IPCI	H01L0021-027 [ICM,7]; G03F0007-075 [ICS,7]; G03F0007-11 [ICS,7]; G03F0007-36 [ICS,7]; H01L0021-3065 [ICS,7]; H01L0021-02 [ICS,7,C*]
	IPCR	G03F0007-075 [I,C*]; G03F0007-075 [I,A]; G03F0007-11 [I,C*]; G03F0007-11 [I,A]; G03F0007-36 [I,C*]; G03F0007-36 [I,A]; H01L0021-02 [I,C*]; H01L0021-027 [I,A]; H01L0021-302 [I,A]; H01L0021-3065 [I,A]

AB The title process involves (1) forming an organic polymer lower film, an intermediate film, and an organic polymer upper film on a substrate, (2) light exposing the upper film, (3) silylating the light-exposed region of the upper film, and (4) etching the upper, intermediate, and lower resist films successively over the silylated region of the upper film as a mask. The etching rate is higher in the upper film than that of the intermediate, and higher in the intermediate film than that of the lower film. The process gives step-wise confirmation of the fine alignment and wire width without particle generation in repeated film removal by etching.

ST silylation polymer resist patterning etching semiconductor device fabrication

IT Etching
(for resist patterning; resist patterning by etching in fabrication of semiconductor devices)
IT Silylation
(of polymer resist; resist patterning by etching in fabrication of semiconductor devices)
IT Photoresists
(patterning of; resist patterning by etching in fabrication of semiconductor devices)
IT Particles
Particulate organic matter
(prevention of; resist patterning by etching in fabrication of semiconductor devices)
IT Semiconductor device fabrication
(resist patterning by etching in fabrication of semiconductor devices)
IT Glass, properties
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(spin on, for intermediate resist film; resist patterning by etching in fabrication of semiconductor devices)
IT 91380-16-4P
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)

(resist pattern; resist patterning by etching in fabrication of semiconductor devices)
IT 59269-51-1, Polyvinylphenol
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
(silylation with tert-butoxycarbonyl, for resist patterning; resist patterning by etching in fabrication of semiconductor devices)

L6 ANSWER 33 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2001:638218 CAPLUS
ED Entered STN: 02 Sep 2001
TI Dip-pen nanolithography
AU Demers, Linette M.; Ivanisevic, Albena; Chung, Sung-Wook; Hong, Seunghun; Im, Jung-Hyuk; Lee, Ki-Bum; Mirkin, Chad A.
CS Chemistry Department and Center for Nanofabrication and Molecular Self-assembly, Northwestern University, Evanston, IL, 60208, USA
SO Abstracts of Papers, 222nd ACS National Meeting, Chicago, IL, United States, August 26-30, 2001 (2001), COLL-182 Publisher: American Chemical Society, Washington, D. C.
CODEN: 69BUZP
DT Conference; Meeting Abstract
LA English
AB Dip-Pen Nanolithog. (DPN) is a scanning probe nanopatterning technique in which an AFM tip is used to deliver mols. to a surface via a solvent meniscus, which naturally forms in the ambient atmospheric This direct-write technique offers high resolution patterning capabilities for a number of mol. and biomol. "inks" on a variety of substrate types such as metals, semiconductors, and monolayer functionalized surfaces. The ability to achieve precise alignment registration of multiple patterns is an addnl. advantage earned by using an AFM tip to write, as well as read nanoscopic features on a surface. These attributes of DPN make it a valuable tool for studying fundamental issues in colloid chemical, surface science, and nanotechnol. For instance, diffusion and capillarity on a surface at the nanometer level, organization and crystallization of particles onto chemical or biomol. templates, monolayer etching resists for semiconductors, and nanometer-sized tethered polymer structures can be all studied via DPN.

L6 ANSWER 34 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2000:861627 CAPLUS
DN 134:20609
ED Entered STN: 08 Dec 2000
TI Manufacture of ceramic microstructures from polymer compositions containing ceramic nanoparticles
IN Morales, Alfredo M.; Zhang, Z. John; Chinn, Douglas
PA Sandia Corporation, USA
SO PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C04B035-622
ICS C04B035-111; C04B035-26
CC 57-2 (Ceramics)
Section cross-reference(s): 38, 73, 76
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000073241	A1	20001207	WO 2000-US15370	20000602

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,

CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 6245849 B1 20010612 US 1999-325003 19990602

PRAI US 1999-325003 A 19990602

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2000073241	ICM	C04B035-622
	ICS	C04B035-111; C04B035-26
	IPCI	C04B0035-622 [ICM,7]; C04B0035-111 [ICS,7]; C04B0035-26 [ICS,7]
	IPCR	B22F0001-00 [I,C*]; B22F0001-00 [I,A]; B22F0003-12 [I,C*]; B22F0003-12 [I,A]; B28B0001-14 [I,C*]; B28B0001-14 [I,A]; B28B0007-34 [I,C*]; B28B0007-34 [I,A]; C04B0035-111 [I,C*]; C04B0035-111 [I,A]; C04B0035-26 [I,C*]; C04B0035-26 [I,A]; C04B0035-622 [I,C*]; C04B0035-622 [I,A]; G03F0007-00 [I,C*]; G03F0007-00 [I,A]
	ECLA	B22F001/00A2B4; B22F003/12B6D; B28B001/14; B28B007/34B; C04B035/111; C04B035/26H; C04B035/622; G03F007/00
US 6245849	IPCI	C08K0003-00 [ICM,7]
	IPCR	B22F0001-00 [I,C*]; B22F0001-00 [I,A]; B22F0003-12 [I,C*]; B22F0003-12 [I,A]; B28B0001-14 [I,C*]; B28B0001-14 [I,A]; B28B0007-34 [I,C*]; B28B0007-34 [I,A]; C04B0035-111 [I,C*]; C04B0035-111 [I,A]; C04B0035-26 [I,C*]; C04B0035-26 [I,A]; C04B0035-622 [I,C*]; C04B0035-622 [I,A]; G03F0007-00 [I,C*]; G03F0007-00 [I,A]
	NCL	524/442.000; 524/443.000; 524/444.000; 524/445.000; 524/447.000; 524/448.000; 524/450.000
	ECLA	B28B001/14; B28B007/34B; C04B035/111; C04B035/26H; C04B035/622; G03F007/00

AB A polymer composition is prepared from a thermally or chemical or photolytically curable polymer, and nanometer size (1-1000 nm) ceramic particles. A mold, such as a lithog. patterned mold, preferably a LIGA mold, is filled with the polymer composition and the polymer is then cured (hardened). The elevated segments of the mold are then removed. The surface-attached ceramic microstructures may then be removed from the substrate and, if desired, pyrolyzed and sintered. The ceramic microstructures have applications in micro electromech. system fabrication, semiconductor processing, information storage, medical diagnostics, optics, materials science, and structural engineering.

ST polymer ceramic nanoparticle pyrolyze sintering

IT Powders
(ceramic, nanoparticles; manufacture of ceramic microstructures from polymer compns. containing ceramic nanoparticles)

IT Semiconductor materials
(ceramic; manufacture of ceramic microstructures from polymer compns. containing ceramic nanoparticles)

IT Electron beams
(irradiation, irradiation; manufacture of ceramic from photolytically curable polymer compns. containing ceramic nanoparticles)

IT Photoresists
(manufacture of ceramic from photolytically curable polymer compns. containing ceramic nanoparticles)

IT Heat treatment
Sintering
(manufacture of ceramic from thermally curable polymer compns. containing ceramic nanoparticles)

IT Setting agents
(manufacture of ceramic microstructures from chemical curable polymer compns. containing ceramic nanoparticles)

IT Grain size
Molds (forms)
Polishing
Release coatings
Solvents
(manufacture of ceramic microstructures from polymer compns. containing ceramic
nanoparticles)
IT Acrylic polymers, processes
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(manufacture of ceramic microstructures from polymer compns. containing ceramic
nanoparticles)
IT Ceramics
(microstructures; manufacture of ceramic microstructures from polymer compns. containing ceramic nanoparticles)
IT Coating materials
(mold releasing agent; manufacture of ceramic microstructures from polymer compns. containing ceramic nanoparticles)
IT Binders
(polymers; manufacture of ceramic microstructures from polymer compns. containing ceramic nanoparticles)
IT Vinyl compounds, processes
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(polymers; manufacture of ceramic microstructures from polymer compns. containing ceramic nanoparticles)
IT Ceramics
(powders, nanoparticles; manufacture of ceramic microstructures from polymer compns. containing ceramic nanoparticles)
IT Ceramics
(semiconductors; manufacture of ceramic microstructures from polymer compns. containing ceramic nanoparticles)
IT Polymers, processes
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(silicon-containing; manufacture of ceramic microstructures from polymer compns.
containing ceramic nanoparticles)
IT Information systems
(storage, ceramics; manufacture of ceramic microstructures from polymer compns. containing ceramic nanoparticles)
IT Polymer degradation
(thermal; manufacture of ceramic microstructures from polymer compns. containing
ceramic nanoparticles)
IT 409-21-2, Silicon carbide (SiC), processes 1308-38-9, Chromium oxide (Cr2O3), processes 1309-37-1, Ferric oxide, processes 1313-27-5, Molybdenum oxide (MoO3), processes 1314-13-2, Zinc oxide (ZnO), processes 1314-23-4, Zirconium oxide (ZrO2), processes 1314-35-8, Tungsten oxide (WO3), processes 1317-33-5, Molybdenum sulfide (MoS2), processes 1317-61-9, Iron oxide (Fe3O4), processes 7631-86-9, Silica, processes 11130-73-7, Tungsten carbide 12018-01-8, Chromium oxide (CrO2) 12033-29-3, Molybdenum sulfide (MoS3) 12033-30-6, Molybdenum selenide (MoSe3) 12033-76-0, Silicon nitride oxide (Si2N2O) 12033-89-5, Silicon nitride (Si3N4), processes 12035-99-3, Tungsten oxide (WO) 12047-11-9, Barium iron oxide (BaFe12O19) 12047-27-7, Barium titanate (BaTiO3), processes 12058-18-3, Molybdenum selenide (MoSe2) 12060-59-2, Strontium titanate (SrTiO3) 12070-08-5, Titanium carbide (TiC) 12534-46-2, Lead titanium zirconium oxide (PbTi0.5Zr0.5O3) 13463-67-7, Titanium oxide (TiO2), processes 18868-43-4, Molybdenum oxide (MoO2) 24304-00-5, Aluminum nitride 25583-20-4, Titanium nitride (TiN) 53801-70-0, Calcium hydroxide phosphate 133290-82-1, Iron neodymium boride 309751-50-6

RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(ceramic nanoparticles; manufacture of ceramic microstructures from polymer compns. containing ceramic nanoparticles)
IT 68318-44-5
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(manufacture of ceramic from thermally curable polymer compns. containing ceramic nanoparticles)
IT 9002-89-5, Poly(vinyl alcohol) 9003-01-4, Polyacrylic acid
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(manufacture of ceramic microstructures from polymer compns. containing ceramic nanoparticles)
IT 12063-10-4, Iron manganese oxide (Fe2MnO4)
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(nanoparticles; manufacture of ceramic microstructures from polymer compns. containing ceramic nanoparticles)
IT 1344-28-1, Alumina, processes
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(slurry; manufacture of ceramic microstructures from polymer compns. containing ceramic nanoparticles)
IT 67-64-1, Acetone, uses
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; manufacture of ceramic microstructures from polymer compns. containing ceramic nanoparticles)
RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Hruby, J; MICROMACHINING AND MICROFABRICATION PROCESS TECHNOLOGY V, Proceedings of the SPIE - The International Society for Optical Engineering 1999, V3874, P32 CAPLUS
(2) Karlsruhe, F; DE 19605521 C 1997 CAPLUS
(3) Karlsruhe, F; DE 19712442 A 1998 CAPLUS
(4) Noeker, F; KERAMISCHE ZEITSCHRIFT 1992, V44(10), P677 CAPLUS

L6 ANSWER 35 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2000:837239 CAPLUS
DN 134:24446
ED Entered STN: 30 Nov 2000
TI Patterning of photoresists and fabrication of semiconductor devices using process thereof
IN Kagotani, Hiroshi
PA Sony Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM H01L021-027
ICS G03F007-022; G03F007-023; G03F007-039; G03F007-11; G03F007-38
CC 76-3 (Electric Phenomena)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000331913	A	20001130	JP 1999-140277	19990520
PRAI	JP 1999-140277		19990520		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2000331913	ICM	H01L021-027
	ICS	G03F007-022; G03F007-023; G03F007-039; G03F007-11;

G03F007-38
IPCI H01L0021-027 [ICM,7]; G03F0007-022 [ICS,7]; G03F0007-023 [ICS,7]; G03F0007-039 [ICS,7]; G03F0007-11 [ICS,7]; G03F0007-38 [ICS,7]
IPCR G03F0007-022 [I,A]; G03F0007-022 [I,C*]; G03F0007-023 [I,A]; G03F0007-023 [I,C*]; G03F0007-039 [I,A]; G03F0007-039 [I,C*]; G03F0007-11 [I,A]; G03F0007-11 [I,C*]; G03F0007-38 [I,A]; G03F0007-38 [I,C*]; H01L0021-02 [I,C*]; H01L0021-027 [I,A]

AB The title patterning of a pos.-photoresist over the entire substrate surface by exposure involves depositing a p-photoresist on the substrate, patterning the resist by light exposure, insolubilizing the peripheral portions of the photoresist against a development solution, and subsequently developing the pattern. The process prevents delamination of the resist on its peripheral area and consequently prevents dust particle formation.

ST photoresist patterning periphery insolubilization delamination particle dust prevention semiconductor

IT Positive photoresists
Semiconductor devices
(patterning of photoresists and fabrication of semiconductor devices using process thereof)

IT Photoresists
(patterning of; patterning of photoresists and fabrication of semiconductor devices using process thereof)

IT Epoxy resins, properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(phenolic, novolak; patterning of photoresists and fabrication of semiconductor devices using process thereof)

IT Delamination
(photoresist, prevention; patterning of photoresists and fabrication of semiconductor devices using process thereof)

IT Dust
(prevention in; patterning of photoresists and fabrication of semiconductor devices using process thereof)

IT 75-59-2, Tetramethylammonium hydroxide
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(photoresist insolubilization; patterning of photoresists and fabrication of semiconductor devices using process thereof)

IT 171903-91-6, THMR-iP 3300
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(photoresist; patterning of photoresists and fabrication of semiconductor devices using process thereof)

IT 53208-22-3, Naphthoquinonediazide
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(pos.-photoresist; patterning of photoresists and fabrication of semiconductor devices using process thereof)

L6 ANSWER 36 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2000:522562 CAPLUS
DN 133:113658
ED Entered STN: 01 Aug 2000
TI Semiconductor device mounting structure on printed circuit boards
IN Tanaka, Takashi
PA NEC Corp., Japan
SO Jpn. Tokkyo Koho, 7 pp.
CODEN: JTXXFF
DT Patent
LA Japanese
IC ICM H05K003-34
ICS H05K003-34; H05K003-28
CC 76-3 (Electric Phenomena)
Section cross-reference(s): 56

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 3019851	B1	20000313	JP 1998-365547	19981222
	JP 2000188469	A	20000704		
	GB 2345191	A	20000628	GB 1999-30350	19991222
	US 6559390	B1	20030506	US 1999-469251	19991222
	GB 2389460	A	20031210	GB 2003-18434	19991222
PRAI	JP 1998-365547	A	19981222		
	GB 1999-30350	A3	19991222		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 3019851	ICM	H05K003-34
	ICS	H05K003-34; H05K003-28
	IPCI	H05K0003-34 [ICM,7]; H05K0003-34 [ICS,7]; H05K0003-28 [ICS,7]
	IPCR	H01L0021-02 [I,C*]; H01L0021-56 [I,A]; H01L0021-60 [I,A]; H01L0023-48 [I,C*]; H01L0023-485 [I,A]; H01L0023-498 [I,A]; H05K0001-18 [I,C*]; H05K0001-18 [I,A]; H05K0003-28 [I,C*]; H05K0003-28 [I,A]; H05K0003-34 [I,C*]; H05K0003-34 [I,A]
GB 2345191	IPCI	H01L0023-488 [ICM,7]; H01L0021-60 [ICS,7]; H01L0023-50 [ICS,7]; H05K0003-34 [ICS,7]
	IPCR	H01L0021-02 [I,C*]; H01L0021-56 [I,A]; H01L0021-60 [I,A]; H01L0023-48 [I,C*]; H01L0023-485 [I,A]; H01L0023-498 [I,A]; H05K0001-18 [I,C*]; H05K0001-18 [I,A]; H05K0003-28 [I,C*]; H05K0003-28 [I,A]; H05K0003-34 [I,C*]; H05K0003-34 [I,A]
	ECLA	H01L021/56F; H01L021/60C4; H01L023/485B; H01L023/498C4; H05K003/28D; H05K003/34C4B
US 6559390	IPCI	H05K0001-16
	IPCR	H01L0021-02 [I,C*]; H01L0021-56 [I,A]; H01L0021-60 [I,A]; H01L0023-48 [I,C*]; H01L0023-485 [I,A]; H01L0023-498 [I,A]; H05K0003-28 [I,A]; H05K0003-28 [I,C*]; H05K0003-34 [I,A]; H05K0003-34 [I,C*]
	NCL	174/260.000; 257/E21.503; 257/E21.511; 257/E23.021; 257/E23.069; 361/768.000; 361/770.000
	ECLA	H01L021/56F; H05K003/28D; H05K003/34C4B; H01L021/60C4; H01L023/485B; H01L023/498C4
GB 2389460	IPCI	H01L0023-488 [ICM,7]; H01L0021-60 [ICS,7]; H01L0023-50 [ICS,7]; H05K0003-34 [ICS,7]
	IPCR	H01L0021-02 [I,C*]; H01L0021-56 [I,A]; H01L0021-60 [I,A]; H01L0023-48 [I,C*]; H01L0023-485 [I,A]; H05K0003-28 [N,A]; H05K0003-28 [N,C*]; H05K0003-34 [I,A]; H05K0003-34 [I,C*]
	ECLA	H01L021/56F; H01L023/485B; H05K003/34C4B; H01L021/60C4

AB The title mounting structure is for melting a pl. number of solder balls which are provided on a semiconductor package surface for elec. and mech. connecting to the circuit boards. The mounting process involves forming a plastic filet around the solder balls connected the circuit boards and packing a sealing polymer material in the clearance between the printed circuit board and the semiconductor package, wherein the plastic filet is provided so that it fills an opening of the solder balls and the solder resist.

ST solder ball connection semiconductor package mounting circuit board

IT Solders
(balls, for melting to connect; semiconductor device mounting structure on printed circuit boards)

IT Plastics, properties
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(filets; semiconductor device mounting structure on printed circuit boards)

IT Packing (particle)
Sealing

(polymers; semiconductor device mounting structure on printed circuit boards)

IT Electronic packaging process
Printed circuit boards
Solder resists
(semiconductor device mounting structure on printed circuit boards)

IT Electronic packaging materials
(semiconductor devices; semiconductor device mounting structure on printed circuit boards)

L6 ANSWER 37 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1999:543587 CAPLUS
ED Entered STN: 30 Aug 1999
TI The photolithographic deposition of nanostructured materials.
AU Hill, R. H.; Bravo-Vasquez, J. P.
CS Department of Chemistry, Simon Fraser University, Burnaby, BC, V5A 1S6, Can.
SO Book of Abstracts, 218th ACS National Meeting, New Orleans, Aug. 22-26 (1999), PMSE-022 Publisher: American Chemical Society, Washington, D. C. CODEN: 67ZJA5
DT Conference; Meeting Abstract
LA English
AB In this paper we will explore a method for the lithog. deposition of quantum dots in a metal oxide matrix.To accomplish this we use a novel photoresist free process to deposit the matrix materials.In this process, photochem. metal organic deposition, a precursor material is deposited on the surface to form an optical quality film.The exposure of this film can result in the lithog. deposition of metal or metal oxide films in the exposed areas.In the present contribution we use a modification of this method to deposit a metal oxide matrix containing quantum dots.We will illustrate this approach using CdS quantum dots within a manganese oxide matrix.For comparison we will also look at using this method to deposit larger, micron scale CdS particles within the matrix.

L6 ANSWER 38 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1999:341150 CAPLUS
DN 130:360192
ED Entered STN: 03 Jun 1999
TI Semiconductor device having pad electrodes and its manufacture
IN Inoue, Kazuo
PA JSR Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM H01L021-60
ICS H01L021-60; C09J009-02; C09J011-04
CC 76-3 (Electric Phenomena)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 11145185	A	19990528	JP 1997-310194	19971112
PRAI JP 1997-310194		19971112		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 11145185	ICM	H01L021-60
	ICS	H01L021-60; C09J009-02; C09J011-04
	IPCI	H01L0021-60 [ICM,6]; H01L0021-60 [ICS,6]; C09J0009-02 [ICS,6]; C09J0011-04 [ICS,6]
	IPCR	H05K0003-28 [N,A]; H05K0003-28 [N,C*]; H05K0003-32 [N,A]; H05K0003-32 [N,C*]

AB The device is manufactured by (1) forming a layer containing magnetic elec. conducting particles dispersed in a radiation-sensitive

polymer on a pad electrode-formed semiconductor device or chip, (2) applying magnetic field to the layer in the thickness direction to orient the particles in the thickness direction, and (3) exposing and developing the layer to form elec. conducting parts on the pad electrodes. The obtained device is also claimed. Good elec. contact is obtained without formation of solder bumps.

ST semiconductor device manuf pad electrode elec contact; magnetic elec conductor semiconductor device manuf; radiation sensitive resist semiconductor device manuf

IT Magnetic materials
Magnetic materials
(elec. conductive, particles; manufacture of semiconductor device having pad electrodes with good elec. contact)

IT Electric conductors
Electric conductors
(magnetic, particles; manufacture of semiconductor device having pad electrodes with good elec. contact)

IT Electric contacts
Magnetic field
Positive photoresists
Semiconductor device fabrication
Semiconductor devices
(manufacture of semiconductor device having pad electrodes with good elec. contact)

IT Phenolic resins, uses
RL: DEV (Device component use); USES (Uses)
(novolak, pos. resist; manufacture of semiconductor device having pad electrodes with good elec. contact)

IT Resists
(radiation-sensitive; manufacture of semiconductor device having pad electrodes with good elec. contact)

IT 7440-57-5, Gold, uses
RL: DEV (Device component use); USES (Uses)
(coating for nickel, magnetic conductor; manufacture of semiconductor device having pad electrodes with good elec. contact)

IT 7440-02-0, Nickel, uses
RL: DEV (Device component use); USES (Uses)
(gold-coated, magnetic conductor; manufacture of semiconductor device having pad electrodes with good elec. contact)

IT 7429-90-5, Aluminum, uses
RL: DEV (Device component use); USES (Uses)
(manufacture of semiconductor device having pad electrodes with good elec. contact)

L6 ANSWER 39 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1999:72081 CAPLUS
DN 130:160675
ED Entered STN: 03 Feb 1999
TI Photoresist used as mask for charged particle irradiation and manufacture of semiconductor device using same
IN Takizawa, Hiroshi
PA Fujitsu Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-004
ICS G03F007-032; G03F007-42; H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11024246	A	19990129	JP 1997-182543	19970708

PRAI JP 1997-182543 19970708

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 11024246	ICM	G03F007-004
	ICS	G03F007-032; G03F007-42; H01L021-027
	IPCI	G03F0007-004 [ICM,6]; G03F0007-032 [ICS,6]; G03F0007-42 [ICS,6]; H01L0021-027 [ICS,6]

AB The title photoresist, used as a patterned mask material for irradiating charged particles selectively to a substrate to be processed, contains a 1st resin component of which the solubility in peeling liquid is changed by irradiation with light used for patternwise exposure of the photoresist and a 2nd resin component which becomes soluble in the peeling liquid by charged particle irradiation A method of manufacturing a semiconductor device using the photoresist as a mask material is also claimed. The photoresist can be removed with peeling liqs. after use as a mask material for charged particle irradiation

ST photoresist mask charged particle irradn; semiconductor device manuf photolithog photoresist

IT Rubber, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(cyclized; photoresist composition containing two kinds of resin components useful for manufacture of semiconductor devices)

IT Phenolic resins, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(novolak; photoresist composition containing two kinds of resin components useful for manufacture of semiconductor devices)

IT Photolithography
(photoresist composition containing two kinds of resin components for photolithog.)

IT Photoresists
Semiconductor devices
Thin film transistors
(photoresist composition containing two kinds of resin components useful for manufacture of semiconductor devices)

IT 79-39-0D, Methacrylamide, polymers 79-41-4D, Methacrylic acid, polymers 80-62-6D, Methyl methacrylate, polymers 115-07-1D, Propylene, polymers 115-11-7D, Isobutylene, polymers 814-78-8D, Methyl isopropenyl ketone, polymers 9003-53-6 45102-52-1D, polymers 76643-43-1D, Hexafluorobutyl methacrylate, polymers
RL: TEM (Technical or engineered material use); USES (Uses)
(photoresist composition containing two kinds of resin components useful for manufacture of semiconductor devices)

L6 ANSWER 40 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1995:343244 CAPLUS

DN 122:139620

ED Entered STN: 10 Feb 1995

TI Composite coatings improve engines

AU Funatani, K.; Kurosawa, K.

CS Nihon Parkerizing Co. Ltd., Nagoya, Japan

SO Advanced Materials & Processes (1994), 146(6), 27-9
CODEN: AMAPEX; ISSN: 0882-7958

DT Journal

LA English

CC 56-6 (Nonferrous Metals and Alloys)
Section cross-reference(s): 57

AB Ni-P alloy composite coatings containing dispersed SiC, hexagonal BN, or Si3N4 particles for improved internal-combustion engines ar discussed. SiC increases hardness, while Si3N4 and BN contribute self-lubricating properties. The P increases hardness and helps the coating resist wear and scuffing at high temps. The coatings can readily be deposited on Al alloy parts.

ST nickel electroless coating composite engine
IT Coating materials
(nickel-phosphorus alloy/ceramic coatings for improved internal-combustion engines)
IT Engines
(internal-combustion, nickel-phosphorus alloy/ceramic coatings for improved)
IT 11146-55-7
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(composites; nickel-phosphorus alloy/ceramic coatings for improved internal-combustion engines)
IT 409-21-2, Silicon monocarbide, properties 10043-11-5, Boron mononitride, properties 12033-89-5, Silicon nitride, properties
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(nickel-phosphorus alloy/ceramic coatings for improved internal-combustion engines)

L6 ANSWER 41 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1993:438689 CAPLUS
DN 119:38689
ED Entered STN: 24 Jul 1993
TI Preparation of protrusion electrodes for semiconductor device
IN Yamazaki, Yasuo
PA Seiko Epson Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM H01L021-321
CC 76-2 (Electric Phenomena)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 04364735	A	19921217	JP 1991-139331	19910612
PRAI JP 1991-139331		19910612		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 04364735	ICM	H01L021-321
	IPCI	H01L0021-321 [ICM,5]; H01L0021-02 [ICM,5,C*]
	IPCR	H01L0021-02 [I,C*]; H01L0021-60 [I,A]; H01L0021-321 [I,A]

AB In a semiconductor device, in which protrusion electrodes on electrode pads are connected with an interconnection pattern on a circuit board, the protrusion electrodes are prepared following the steps of: (a) forming a resist film on a device component; (b) photoetching with the resist film as a mask to form an opening on an electrode pad; and (c) filling the opening with a resin mixed with elec. conductive particles (metal-coated resin particles) or metal particles.
ST protrusion electrode prepn semiconductor device
IT Acrylic polymers, uses
Epoxy resins, uses
Polyimides, uses
Siloxanes and Silicones, uses
RL: PREP (Preparation)
(metal-particle-containing, for preparation of protrusion electrodes for semiconductor devices)
IT Electric conductors
Solders
(particles, resins containing, for preparation of protrusion electrodes for semiconductor devices)
IT Electrodes
(protrusion , preparation of, for semiconductor devices)
IT 7440-02-0, Nickel, uses 7440-22-4, Silver, uses 7440-50-8, Copper, uses 7440-57-5, Gold, uses

RL: USES (Uses)
(particles, resins containing, in preparation of protrusion electrodes for semiconductor devices)

L6 ANSWER 42 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1990:226816 CAPLUS
DN 112:226816
ED Entered STN: 09 Jun 1990
TI Precise patterning of resist by charged particle beam for semiconductor device
IN Oshio, Shuzo
PA Fujitsu Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM H01L021-30
ICS H01L021-30
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 76
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 01304729	A	19891208	JP 1988-136117	19880602
PRAI JP 1988-136117		19880602		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 01304729	ICM	H01L021-30
	ICS	H01L021-30
	IPCI	H01L0021-30 [ICM,4]; H01L0021-30 [ICS,4]; H01L0021-02 [ICS,4,C*]
	IPCR	H01L0021-02 [I,C*]; H01L0021-027 [I,A]; H01L0021-30 [I,A]

AB A substrate is coated with the 1st resist layer, overcoated with the 2nd layer based on a polymer having polyethylene and/or polyacetylene then the 2nd layer is contacted with ≥1 selected from B, P, As, F, Cl, iodine, and their compds. and patterned in exposure under charged particle beam. The polymer layer with low resistivity prevents charging up and gives precise pattern by irradiation under electron beam or ion beam. Thus, a resist layer was formed on a semiconductor substrate, spin-coated with polyethylene solution, baked, exposed under AsF5, irradiated by electron beam, and developed to give a precise pattern.
ST patterning charge particle beam resist; elec conductive polymer coating resist; polyethylene doped overcoating resist patterning; arsenic fluoride dopant polymer resist; semiconductor device patterning electron beam
IT Resists
(doped elec. conductive polymer, for patterning with charged particle beam)
IT Electric conductors
(doped polymers, for patterning of resist by irradiation with charged particle beam, for semiconductor device)
IT Semiconductor devices
(resist patterning in, elec. conductive overcoating for, doped polymer as, for charged particle beam irradiation)
IT 9002-88-4, Polyethylene 25067-58-7, Polyacetylene
RL: USES (Uses)
(doped, elec. conductive, for resist patterning with charged particle beam for semiconductor device)
IT 7553-56-2, Iodine, uses and miscellaneous 7723-14-0, Phosphorus, uses and miscellaneous 7782-50-5, Chlorine, uses and miscellaneous 7784-36-3, Arsenic fluoride (AsF5) 33283-59-9, Bromine (Br2), uses and miscellaneous

RL: USES (Uses)
(polymer doped with, elec. conductive, for resist patterning with charged particle beam for semiconductor device)

L6 ANSWER 43 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1986:635853 CAPLUS
DN 105:235853
ED Entered STN: 26 Dec 1986
TI Patterning process
IN Iino, Teruo
PA NEC Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM H01L021-30
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 61141133	A	19860628	JP 1984-263423	19841213
PRAI JP 1984-263423		19841213		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 61141133	ICM	H01L021-30
	IPCI	H01L0021-30 [ICM,4]; H01L0021-02 [ICM,4,C*]
	IPCR	H01L0021-02 [I,C*]; H01L0021-30 [I,A]

AB The claimed patterning process involves (1) coating of a semiconductor substrate with a charged particle beam-crosslinking type polymer, (2) patternwise irradiation of the polymer layer with a charged particle beam, (3) development, and (4) removal of the tailing part (or residual) of the polymer by using UV irradiation The method improves dimensional accuracy of electron-beam patterns; hence it is useful during integrated circuit fabrication.
ST electron beam neg resist patterning; UV removal resist tail
IT Resists
(electron-beam, UV irradiation in removal of tails of patterns from)
IT Electric circuits
(integrated, electron-beam resist pattern formation in fabrication of)
IT 9003-53-6D, chloromethylated
RL: USES (Uses)
(neg.-working electron-beam resist, patterns from, tail removal by UV radiation for improved dimensional accuracy of)

L6 ANSWER 44 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1986:574527 CAPLUS
DN 105:174527
ED Entered STN: 15 Nov 1986
TI Photosensitive compositions pyrolyzable to heat-resistant films
IN Yokota, Kanichi; Ikeda, Akihiko; Ai, Hideo
PA Asahi Chemical Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08G075-00
ICS G03C001-00; G03C001-68; G03F007-10
CC 42-10 (Coatings, Inks, and Related Products)
Section cross-reference(s): 74
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 61073740	A	19860415	JP 1984-195802	19840920
PRAI	JP 1984-195802		19840920		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 61073740	ICM	C08G075-00
	ICS	G03C001-00; G03C001-68; G03F007-10
	IPCI	C08G0075-00 [ICM,4]; G03C0001-00 [ICS,4]; G03C0001-68 [ICS,4]; G03F0007-10 [ICS,4]
	IPCR	G03F0007-038 [I,A]; G03F0007-038 [I,C*]

AB Coating compns. sensitive to light but resistant to thermal crosslinking during drying, which after irradiation and etching can be pyrolyzed to heat-resistant cyclopolymer films, useful as resists, insulation, or α- particle shields in semiconductor devices, contain polymers with repeating units -Z(CO2R)nZ1Z2(R1m)Z1- [Z, Z2 = carbocyclic or heterocyclic group; Z1 = CONH, HNCO, HNCONH, OCONH; R = unsatd. radical; R1 = group cyclizable with CO2R; n = 1, 2; m = 0-2], polythiols, and photopolymn. initiators. Thus, allyl 3,3',4,4'-benzophenonetetracarboxylate was polymerized with 4,4'-oxydianiline and endcapped by EtOH. A solution of this polymer (I) 25, pentaerythritol tetrakis(3-mercaptopropionate) 3.75, Quantacure PDO 1.0, Michler's ketone 0.5, and 1-phenyl-5-mercaptotetrazole 0.125 g in 44 mL N-methylpyrrolidone was spin-coated on a Si wafer and dried at 70° to form a 50-μ film. Irradiation with UV through a 21-step mask and development gave a pattern with sensitivity (irradiation giving 80% retention on developing) 70 mJ/cm2 and thickness retention after pyrolysis at 400° for 1 h 75%.

ST photocurable coating compn; crosslinking UV coating; thiol coating photocurable; allyl carbonyldiphthalate coating photocurable; oxydianiline copolymer coating; pentaerythritol mercaptopropionate coating

IT Electric insulators and Dielectrics
(coatings, unsatd. polyamic acids-polythiols, pyrolyzable to heat-resistant cyclopolymers)

IT Resists
(photo-, unsatd. polyamic acids-polythiols, pyrolyzable to heat-resistant cyclopolymers)

IT Crosslinking agents
(photochem., polythiols, for unsatd. polyamic acid coatings)

IT Coating materials
(photocurable, polyamic acids or polyureas and polythiols, pyrolyzable to cyclopolymers)

IT Thiols, uses and miscellaneous
RL: MOA (Modifier or additive use); USES (Uses)
(poly-, crosslinking agents, for coatings by light)

IT 104491-91-0 104512-25-6 104512-27-8 104512-60-9 104512-62-1 104534-88-5 104596-50-1 104597-52-6
RL: TEM (Technical or engineered material use); USES (Uses)
(coatings, photocurable and pyrolyzable)

IT 7575-23-7 10193-99-4 10312-58-0 25359-71-1 68865-56-5
RL: MOA (Modifier or additive use); USES (Uses)
(crosslinking agents, for coatings by light)

L6 ANSWER 45 OF 47 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1985:70263 CAPLUS
DN 102:70263
ED Entered STN: 24 Feb 1985
TI Mask for x-ray lithography
PA Hattori, Shuzo, Japan; Japan Vacuum Engineering Co., Ltd.
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC G03F001-00; G03F001-02; H01L021-30

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CC   74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other
     Reprographic Processes)
FAN.CNT 1
     PATENT NO.           KIND   DATE        APPLICATION NO.         DATE
     ---------------      ----   --------    --------------------    --------
PI   JP 59193455           A     19841102    JP 1983-67031           19830418
     JP 04027684           B     19920512
PRAI JP 1983-67031                 19830418
CLASS
 PATENT NO.       CLASS  PATENT FAMILY CLASSIFICATION CODES
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 JP 59193455      IC     G03F001-00; G03F001-02; H01L021-30
                  IPCI   G03F0001-00; G03F0001-02; H01L0021-30; H01L0021-02 [C*]
                  IPCR   G03F0001-14 [I,A]; G03F0001-14 [I,C*]
AB   The fabrication of a low-cost mask for x-ray lithog. involves the
     following steps: (1) forming an x-ray absorption composite layer containing
     high-atomic-number metal particles (e.g., Au) on a substrate (e.g.,
     BN) using a plasma-polymerization metal-evaporation-doping method;
     (2) forming an electron-beam resist layer on the composite layer
     using a plasma-polymerization method; (3) lithog. forming a resist
     relief pattern from the resist layer; and (4) transferring the
     resist pattern to the composite layer by reactive ion etching.
ST   gold mask x ray lithog; electron beam resist lithog mask
IT   Resists
        (electron-beam, in x-ray lithog. mask fabrication)
IT   Photomasks
        (x-ray, absorber composite containing metal particles in electron-beam
        lithog. fabrication of)
IT   7440-57-5, uses and miscellaneous
     RL: USES (Uses)
        (x-ray lithog. mask absorber layer containing particles of, electron-beam
        lithog. in fabrication of)
IT   10043-11-5, uses and miscellaneous
     RL: USES (Uses)
        (x-ray lithog. mask with substrate of, electron-beam lithog. in
        fabrication of)


=> d his

     (FILE 'HOME' ENTERED AT 12:21:27 ON 07 MAY 2007)

     FILE 'CAPLUS' ENTERED AT 12:21:41 ON 07 MAY 2007
L1      1424990 S (PARTICLE OR PARTICULATE OR NANOPARTIC? OR MICROPARTIC? OR NA
L2       549709 S (CUCL OR CUBR OR CUI OR AGCL OR AGBR OR AGI OR CAO OR MGO OR
L3        32981 S (L2 OR SEMICONDUC?)(10A)L1
L4          260 S L3 AND (RESIST OR PHOTORESIST)
L5        49643 S (L2 OR SEMICONDUC?)(10A)(POLYMER? OR BINDER OR MATRIX OR MATR
L6           47 S L4 AND L5

=> s l3 and (superresolution or (super(3w)resolution) or (contrast(3w)enhanc?))
           120 SUPERRESOLUTION
           244 SUPERRESOLN
             1 SUPERRESOLNS
           245 SUPERRESOLN
                 (SUPERRESOLN OR SUPERRESOLNS)
           276 SUPERRESOLUTION
                 (SUPERRESOLUTION OR SUPERRESOLN)
         67015 SUPER
            14 SUPERS
         67027 SUPER
                 (SUPER OR SUPERS)
         99988 RESOLUTION
          1014 RESOLUTIONS
        100535 RESOLUTION
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(RESOLUTION OR RESOLUTIONS)
319443 RESOLN
7554 RESOLNS
323464 RESOLN
(RESOLN OR RESOLNS)
363424 RESOLUTION
(RESOLUTION OR RESOLN)
777 SUPER(3W)RESOLUTION
547483 CONTRAST
11426 CONTRASTS
557269 CONTRAST
(CONTRAST OR CONTRASTS)
975444 ENHANC?
3942 CONTRAST(3W)ENHANC?
L7 10 L3 AND (SUPERRESOLUTION OR (SUPER(3W)RESOLUTION) OR (CONTRAST(3W)ENHANC?))

=> d all 1-10

L7 ANSWER 1 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:1237143 CAPLUS
DN 146:109988
ED Entered STN: 27 Nov 2006
TI Three-dimensional analysis of silver nano-particles doping effects on super resolution near-field structure
AU Chau, Yuan-Fong; Tsai, Din Ping
CS Department of Electronic Engineering, Chin Yun University, Jung-Li, Taiwan, 320, Peop. Rep. China
SO Optics Communications (2007), 269(2), 389-394
CODEN: OPCOB8; ISSN: 0030-4018
PB Elsevier B.V.
DT Journal
LA English
CC 73-2 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
AB The super resolution near-field structure which incorporates a AgOx thin film was studied through the calcn. using 3D finite-difference time-domain method. The influences of the optical field distribution generate by some factors, e.g., the polarization direction, the wavelength of incident light and the size of Ag nanoparticles, which are sensitive to the surface plasmon resonance are discussed in detail. The goal of this study is to explain the phys. mechanisms responsible for the super-resolution near-field structure phenomena in 3D model and give a better understanding of the optical properties between AgOx layer and incident light.
ST silver nanoparticle oxide film super resoln near field structure
IT Nanoparticles
Optical properties
(three-dimensional anal. of Ag nanoparticles doping effects on super resolution near-field structure)
IT 1314-98-3, Zinc sulfide (ZnS), properties 7440-22-4, Silver, properties 7631-86-9, Silica, properties 16150-49-5, Antimony germanium telluride (Sb2Ge2Te5) 20667-12-3, Silver oxide
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(three-dimensional anal. of Ag nanoparticles doping effects on super resolution near-field structure)
RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
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L7 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:265077 CAPLUS
DN 144:477712
ED Entered STN: 22 Mar 2006
TI Superresolution structure optical disk with semiconductor-doped glass mask layer containing CdSe nanoparticles
AU Yeh, Tung-Ti; Wang, Jr-Hau; Hsieh, Tsung-Eong; Shieh, Han-Ping D.
CS Department of Materials Science and Engineering, National Chiao-Tung University, Hsinchu, 30050, Taiwan
SO Japanese Journal of Applied Physics, Part 1: Regular Papers, Brief Communications & Review Papers (2006), 45(2B), 1394-1397
CODEN: JAPNDE
PB Japan Society of Applied Physics
DT Journal
LA English
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
AB The authors demonstrate a distinct superresoln. phenomenon and signal properties of an optical disk with a semiconductor-doped glass (SDG) mask layer containing CdSe nanoparticles. It was found that the 69 nm marks could be consistently retrieved at reading power (Pr) = 4 mW with carrier-to-noise ratio (CNR) = 13.56 dB. The signals were clearly resolved with CNRs nearly equal to 40 dB at Pr = 4 mW when the recorded marks were larger than 100 nm. The cyclability test indicated that the CdSe-SiO2 SDG layer might serve as a stable and reliable optical mask layer in 105 readout cycles.
ST superresoln optical disk doped glass mask cadmium selenide nanoparticle
IT Nanoparticles
(superresoln. optical disk with semiconductor-doped glass mask layer containing CdSe nanoparticles)
IT Optical disks
(superresoln.; superresoln. optical disk with semiconductor-doped glass mask layer containing CdSe nanoparticles)
IT 1306-24-7, Cadmium selenide (CdSe), properties
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(nanoparticles; superresoln. optical disk with

semiconductor-doped glass mask layer containing CdSe nanoparticles)

IT 1314-98-3, Zinc sulfide, properties 7631-86-9, Silica, properties 16150-49-5, Germanium antimony telluride(Ge2Sb2Te5)
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(superresoln. optical disk with semiconductor-doped glass mask layer containing CdSe nanoparticles)

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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(9) Nakano, T; Appl Phys Lett 1999, V75, P151 CAPLUS
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(18) Tsai, D; Appl Phys Lett 1999, V75, P151
(19) Wang, J; Master Thesis, Department of Materials Science and Engineering 2003
(20) Yue, L; Electrets (ISE 9) 9th Int Symp 1996, P444 CAPLUS

L7 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:854822 CAPLUS
DN 142:65290
ED Entered STN: 18 Oct 2004
TI Method of manufacturing fine pattern of semiconductor device
IN Choi, Young Nam
PA Daewoo Electronics Co., Ltd., S. Korea
SO Repub. Korea, No pp. given
CODEN: KRXXFC
DT Patent
LA Korean
IC ICM H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 76

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
KR 208667	B1	19990715	KR 1996-60677	19961130

PRAI KR 1996-60677 19961130

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
KR 208667	ICM	H01L021-027
	IPCI	H01L0021-027 [ICM,7]; H01L0021-02 [ICM,7,C*]
	IPCR	H01L0021-02 [I,C*]; H01L0021-027 [I,A]

AB A method for making a fine pattern on a semiconductor device is provided, which is to easily eliminate particles, in every process performed in a working area of a lithog. process. A lower resist layer is formed by applying the first resist on a semiconductor substrate. A contrast enhancement layer is formed on the lower resist layer. An exposure process is performed regarding the entire surface of the resultant structure having the contrast

enhancement layer. The second resist is applied on the resultant structure to form an upper resist layer. An exposure process is performed regarding the upper resist layer by using a mask for forming a fine pattern. The upper resist layer, the contrast enhancement layer, and the lower resist layer are simultaneously developed.

ST photoimaging patterning semiconductor device fabrication

IT Photolithography
Semiconductor device fabrication
(method of fine patterning for semiconductor devices)

L7 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:515823 CAPLUS
DN 141:62118
ED Entered STN: 27 Jun 2004
TI Programmable photolithographic mask and reversible photo-bleachable materials based on nano-sized semiconductor particles and their applications
IN Fleet, Erin F.; Gonen, Serpil; Cooper, Gregory D.; Chen, Zhiyun
PA Pixelligent Technologies Llc, USA
SO PCT Int. Appl., 62 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM H01L
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004053938	A2	20040624	WO 2003-US38894	20031209
	WO 2004053938	A3	20050428		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2003297714	A1	20040630	AU 2003-297714	20031209
	US 2004150865	A1	20040805	US 2003-730381	20031209
	US 2004152011	A1	20040805	US 2003-730382	20031209
	EP 1576419	A2	20050921	EP 2003-796779	20031209
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	JP 2006509260	T	20060316	JP 2004-559397	20031209
PRAI	US 2002-431726P	P	20021209		
	US 2002-431735P	P	20021209		
	WO 2003-US38894	W	20031209		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2004053938	ICM	H01L
	IPCI	H01L [ICM,7]
	IPCR	G02F0001-01 [I,C*]; G02F0001-01 [N,A]; G02F0001-015 [I,A]; G02F0001-017 [N,A]; G03F0007-20 [I,C*]; G03F0007-20 [I,A]
	ECLA	G03F007/20S3; G02F001/015; G03F007/20T16; G03F007/20T18
AU 2003297714	IPCI	G03F0007-00 [ICM,7]
	IPCR	G02F0001-01 [I,C*]; G02F0001-01 [N,A]; G02F0001-015 [I,A]; G02F0001-017 [N,A]; G03F0007-20 [I,C*];

		G03F0007-20 [I,A]
US 2004150865	IPCI	G02F0001-03 [ICM,7]; G02F0001-01 [ICM,7,C*]
	IPCR	G02F0001-01 [I,C*]; G02F0001-03 [I,A]
	NCL	359/252.000
US 2004152011	IPCI	G03F0007-00 [ICM,7]
	IPCR	G03F0007-00 [I,C*]; G03F0007-00 [I,A]
	NCL	430/270.100; 430/270.110; 430/311.000; 430/394.000
EP 1576419	IPCI	G03F0007-00 [ICM,7]
	IPCR	G03F0007-20 [I,A]; G02F0001-00 [I,C]; G02F0001-00 [I,A]; G02F0001-01 [I,C*]; G02F0001-01 [N,A]; G02F0001-015 [I,A]; G02F0001-017 [N,A]; G03F0007-20 [I,C]
	ECLA	G02F001/015; G03F007/20T16; G03F007/20T18
JP 2006509260	IPCI	G02F0001-015 [I,A]; G02F0001-01 [I,C*]
	IPCR	G02F0001-01 [I,C]; G02F0001-015 [I,A]; G02F0001-01 [N,A]; G02F0001-017 [N,A]; G03F0007-20 [I,C*]; G03F0007-20 [I,A]
	FTERM	2H079/AA02; 2H079/AA05; 2H079/AA12; 2H079/BA01; 2H079/DA16; 2H079/DA23; 2H079/DA26; 2H079/EA27; 2H079/EB17

AB Semiconductor nano-particles, due to their specific phys. properties, can be used as optical modulator and reversible photo-bleachable materials for a wide spectrum, from far IR to deep U.V. In this patent, nano-particles are provided with control circuitry to form a programmable mask. The optical characteristics of the nano-particles change to provide patterned light. Such patterned light can be used for example to expose a photoresist on a semiconductor wafer for photolithog. Other applications include, reversible contrast enhancement layer (R-CEL) in optical lithog., lithog. mask inspection and writing and optical storage technologies.

ST programmable photolithog mask reversible photobleachable material nanosized semiconductor

IT Nanoparticles
Optical disks
Optical modulators
Photolithography
Photomasks (lithographic masks)
Semiconductor device fabrication
(programmable photolithog. mask and reversible photo-bleachable materials based on nano-sized semiconductor particles)

IT 1317-82-4, Sapphire 7429-90-5, Aluminum, uses 7440-21-3, Silicon, uses 7631-86-9, Silica, uses 12039-83-7, Titanium silicide (TiSi2)
RL: DEV (Device component use); USES (Uses)
(programmable photolithog. mask and reversible photo-bleachable materials based on nano-sized semiconductor particles)

L7 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:254762 CAPLUS
DN 140:412773
ED Entered STN: 29 Mar 2004
TI The characteristics of reactively sputtered AgOx films prepared at different oxygen flow rates and its effect on super-resolution near-field properties
AU Her, Yung-Chiun; Lan, Yuh-Chang; Hsu, Wei-Chih; Tsai, Song-Yeu
CS Department of Materials Engineering, National Chung Hsing University, Taichung, Taiwan
SO Japanese Journal of Applied Physics, Part 1: Regular Papers, Short Notes & Review Papers (2004), 43(1), 267-272
CODEN: JAPNDE
PB Japan Society of Applied Physics
DT Journal
LA English
CC 66-3 (Surface Chemistry and Colloids)

AB The characteristics of several reactively sputtered AgOx films, prepared at different oxygen flow ratios, with and without ZnS-SiO2 protective layers have been examined For the as-deposited AgOx films, the amount and size of Ag clusters decreased, and the constituent phase of AgOx gradually transferred from pure Ag2O, to a mixture of Ag2O and AgO, then to pure AgO, as the oxygen flow ratio was increased. After annealing, the reduction of AgO into Ag2O and decomposition of Ag2O into Ag and O2 took place, and the decomposed Ag elements would diffuse outward and precipitate small silver particles on the surface of ZnS-SiO2 protective layers. The chemical decomposition of AgOx film confined by ZnS-SiO2 protective layers was confirmed to be an irreversible process. The super-resolution near field effect becomes significant only when the super-resolution near-field structure (super-RENS) disk with an AgOx mask layer prepared at oxygen flow ratios above a threshold value, where AgOx film consists of Ag2O or AgO phase.

ST reactively sputtered silver oxide film oxygen flow rate

IT Surface structure
(of AgOx film with Ag2O or AgO phase prepared with and without ZnS-SiO2 protective layer)

IT Films
Vapor deposition process
(preparation of AgOx film with Ag2O or AgO phase with and without ZnS-SiO2 protective layer)

IT 1314-98-3, Zinc sulfide, uses 7631-86-9, Silica, uses
RL: NUU (Other use, unclassified); USES (Uses)
(preparation of AgOx film with Ag2O or AgO phase with and without ZnS-SiO2 protective layer)

IT 1301-96-8P, Silver monoxide 11113-88-5P, Silver oxide 20667-12-3P, Silver oxide
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
(preparation of AgOx film with Ag2O or AgO phase with and without ZnS-SiO2 protective layer)

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Fuji, H; Jpn J Appl Phys 2000, V39, P980 CAPLUS
(2) Hoflund, G; Surf Sci Spec 1995, V3, P151
(3) Hoflund, G; Surf Sci Spec 1995, V3, P157
(4) Hoflund, G; Surf Sci Spec 1995, V3, P163
(5) Kikukawa, T; Jpn J Appl Phys 2003, V42, P1038 CAPLUS
(6) Liu, W; Appl Phys Lett 2001, V78, P685 CAPLUS
(7) Men, L; Jpn J Appl Phys 2000, V39, P2639 CAPLUS
(8) Nakano, T; Appl Phys Lett 1998, V75, P151
(9) Tominaga, J; Appl Phys Lett 1998, V73, P2078 CAPLUS
(10) Tominaga, J; Jpn J Appl Phys 2000, V39, P957 CAPLUS
(11) Tominaga, J; Jpn J Appl Phys 2001, V40, P1831 CAPLUS

L7 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:368976 CAPLUS
DN 138:376129
ED Entered STN: 14 May 2003

TI Thin film molding product containing semiconductor crystal particles and optical use of the molding

IN Otsu, Takeshi; Saito, Yasuko
PA Mitsubishi Chemical Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 18 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08J005-18
ICS C08K009-04; C08L101-00; C09K011-06; G02B001-10; G02B001-11; G11B007-24; H05B033-14; H05B033-20
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 38, 75, 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003138033	A	20030514	JP 2001-336119	20011101
PRAI	JP 2001-336119		20011101		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2003138033	ICM	C08J005-18
	ICS	C08K009-04; C08L101-00; C09K011-06; G02B001-10; G02B001-11; G11B007-24; H05B033-14; H05B033-20
	IPCI	C08J0005-18 [ICM,7]; C08K0009-04 [ICS,7]; C08K0009-00 [ICS,7,C*]; C08L0101-00 [ICS,7]; C09K0011-06 [ICS,7]; G02B0001-10 [ICS,7]; G02B0001-11 [ICS,7]; G11B0007-24 [ICS,7]; H05B0033-14 [ICS,7]; H05B0033-20 [ICS,7]; H05B0033-12 [ICS,7,C*]
	IPCR	G02B0001-10 [I,C*]; G02B0001-10 [I,A]; C08J0005-18 [I,C*]; C08J0005-18 [I,A]; C08K0009-00 [I,C*]; C08K0009-04 [I,A]; C08L0101-00 [I,C*]; C08L0101-00 [I,A]; C09K0011-06 [I,C*]; C09K0011-06 [I,A]; G02B0001-11 [I,A]; G11B0007-24 [I,C*]; G11B0007-24 [I,A]; H05B0033-12 [I,C*]; H05B0033-14 [I,C*]; H05B0033-14 [I,A]; H05B0033-20 [I,A]

AB The molding contains semiconductor crystal particles linked with polyalkylene glycol residue through an amino group. Preferably, the semiconductor is Group II-VI compound or Group III-V compound The molding is prepared by applying of the surface-modified semiconductor particle solution in a alicyclic solvent on a substrate. The molding is used as (a) a superresoln. film having light absorbance ≥0.1 in exciton absorption band peak wavelength of the semiconductor, (b) a UV-absorbing film wherein the wavelength of the long wavelength edge of semiconductor absorption spectra is ≤400 nm, (c) a reflection regulator film having n (Na D line, 23°) ≥1.6, (d) an optical waveguide, and (e) a surface-emitting layer in an electroluminescent device.

ST thin film molding semiconductor crystal particle; compd semiconductor surface treated thin film; superresoln film modified semiconductor crystal particle; reflection regulator modified semiconductor crystal particle; optical waveguide modified semiconductor crystal particle; electroluminescent device emission layer thin film; polyalkylene glycol modified semiconductor crystal particle

IT Polyoxyalkylenes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(binder; in thin film containing polyalkylene glycol-modified semiconductor crystal particles for optical use)

IT Optical reflection
(regulators; thin film containing polyalkylene glycol-modified semiconductor crystal particles for optical use)

IT Group IIB element chalcogenides
Group IIIA element pnictides
RL: TEM (Technical or engineered material use); USES (Uses)
(semiconductors; thin film containing polyalkylene glycol-modified semiconductor crystal particles for optical use)

IT Electroluminescent devices
Optical waveguides
Semiconductor materials
(thin film containing polyalkylene glycol-modified semiconductor crystal particles for optical use)

IT 25322-68-3, Polyethylene glycol
RL: TEM (Technical or engineered material use); USES (Uses)
(binder; in thin film containing polyalkylene glycol-modified semiconductor crystal particles for optical use)

IT 112-35-6, Triethylene glycol monomethyl ether
RL: RCT (Reactant); RACT (Reactant or reagent)
(for preparation of thin film containing polyalkylene glycol-modified semiconductor crystal particles for optical use)
IT 109-99-9, THF, uses
RL: NUU (Other use, unclassified); USES (Uses)
(thin film containing polyalkylene glycol-modified semiconductor crystal particles applied as solution in alicyclic solvent on substrate)
IT 1306-23-6DP, Cadmium sulfide, coordinated with triethylene glycol aminoundecanoic acid ester 1306-24-7DP, Cadmium selenide, coordinated with triethylene glycol aminoundecanoic acid ester 1315-09-9DP, Zinc selenide, coordinated with triethylene glycol aminoundecanoic acid ester 500230-68-2DP, metal chalcogenide coordinated with
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(thin film containing polyalkylene glycol-modified semiconductor crystal particles for optical use)

L7 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2002:555780 CAPLUS
DN 137:117001
ED Entered STN: 26 Jul 2002
TI Optical information recording medium made from wurtzite- or zinc blende-type crystal structure semiconductor grain
IN Yamamoto, Hiroki; Naito, Takashi; Shintani, Toshimichi; Terao, Motoyasu; Nakazawa, Tetsuo; Honda, Mitsutoshi; Hirano, Tatsumi
PA Hitachi Ltd., Japan
SO PCT Int. Appl., 51 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
IC ICM G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002058060	A1	20020725	WO 2001-JP305	20010118
W: JP, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				

PRAI WO 2001-JP305 20010118
CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2002058060	ICM	G11B007-24
	IPCI	G11B0007-24 [ICM,7]
	IPCR	G11B0007-24 [I,C*]; G11B0007-24 [I,A]; G11B0007-257 [I,A]
	ECLA	G11B007/24R; G11B007/257

AB The invention relates to an optical information recording medium having excellent response and high recording d. and not deteriorating even after repeated read/write. An super-resolution film aligned with respect to the substrate surface and made of microcrystals of a compound semiconductor is provided on the upper surface of a substrate. The super-resolution film is made of a Group II-VI compound semiconductor grain which has orientation capability with the grain boundary and has a wurtzite- or zinc blende-type crystal structure. The grain boundary contains oxide of metals selected from Si, Al, Ti, alkaline metals, and alkaline earth metals. An optical recording film for recording information optically through a protective film is provided on the upper surface thereof along with a reflective film.
ST optical information recording compd semiconductor grain; wurtzite zinc blende crystal structure compd semiconductor grain

IT Optical disks
(optical information recording disk made from wurtzite- or zinc blende-type crystal structure semiconductor grain)
IT 1306-23-6, Cadmium sulfide, uses 1315-09-9, Zinc selenide 39466-56-3, Cadmium zinc sulfide (Cd0.5Zn0.5S) 108216-70-2, Cadmium zinc sulfide (Cd0.7Zn0.3S) 443769-59-3, Cadmium zinc sulfide (Cd0.3Zn0.3S)
RL: DEV (Device component use); USES (Uses)
(optical information recording disk made from wurtzite- or zinc blende-type crystal structure semiconductor grain)
IT 1303-86-2, Boron oxide (B2O3), uses 1305-78-8, Calcium oxide (CaO), uses 1309-48-4, Magnesia, uses 1313-59-3, Sodium oxide, uses 1344-28-1, Alumina, uses 7631-86-9, Silica, uses 13463-67-7, Titania, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(optical information recording disk made from wurtzite- or zinc blende-type crystal structure semiconductor grain)
RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Hewlett-Packard Company; JP 07226567 A 1994 CAPLUS
(2) Hewlett-Packard Company; US 5363390 A 1994 CAPLUS
(3) Hoya Corporation; JP 862648 A 1996
(4) Toshiba Corporation; JP 10320857 A 1998
(5) Toshiba Corporation; JP 11273148 A 1999
(6) Toshiba Corporation; JP 1186342 A 1999

L7 ANSWER 8 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2002:39635 CAPLUS
DN 136:126622
ED Entered STN: 16 Jan 2002
TI Optical disk provided with super-resolution film and recording/reproducing method thereof
IN Ichihara, Katsutaro; Nagase, Toshihiko
PA Kabushiki Kaisha Toshiba, Japan
SO U.S., 13 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM G11B007-00
INCL 369275200
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 73, 76
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6339582	B1	20020115	US 1999-272777	19990319
PRAI JP 1998-71691	A	19980320		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6339582	ICM	G11B007-00
	INCL	369275200
	IPCI	G11B0007-00 [ICM,7]
	IPCR	G11B0007-00 [I,C*]; G11B0007-00 [I,A]; G11B0007-004 [I,A]; G11B0007-0045 [I,A]; G11B0007-005 [I,A]; G11B0007-24 [I,C*]; G11B0007-24 [I,A]; G11B0007-257 [I,A]
	NCL	369/275.200; 369/013.050; 369/118.000; 428/064.100
	ECLA	G11B007/0045R; G11B007/005R; G11B007/24; G11B007/24R; G11B007/257

AB The invention relates to an optical disk on and from which information is recorded and reproduced by irradiating a light beam. The optical disk is capable of super-resolution recording by forming a recording mark smaller than the spot size of a recording beam defined by the wavelength of a light source and the NA of a focusing lens. The optical disk has a recording layer to which light is irradiated for

recording/reproducing information, and comprises a super-resolution film for recording, and a reflective film, that are formed on the side opposite to the light- entering side with respect to the recording layer, and a super-resolution film for reproduction formed on the light- entering side with respect to the recording layer.

ST optical disk recording medium semiconductor cadmium sulfide gallium telluride; antimony germanium telluride zinc sulfide silica aluminum optical disk; indium silver sulfide chalcogenide semiconductor particle DVD RAM disk

IT Semiconductor materials
(in manufacture of optical disk with improved carrier-to-noise ratio and having super-resolution film containing semiconductor particles)

IT Optical disks
(optical disk having super-resolution film containing semiconductor particles)

IT Magnetron sputtering
(optical disk with improved carrier-to-noise ratio and having super-resolution film containing semiconductor particles formed by)

IT 409-21-2, Silicon carbide (SiC), uses 1306-23-6, Cadmium sulfide (CdS), uses 1306-24-7, Cadmium selenide (CdSe), uses 1306-25-8, Cadmium telluride (CdTe), uses 1315-09-9, Zinc selenide (ZnSe) 1317-36-8, Lead oxide (PbO), uses 1317-38-0, Copper oxide (CuO), uses 12013-55-7, Calcium silicide (CaSi) 12024-10-1, Gallium sulfide (GaS) 12024-11-2, Gallium selenide (GaSe) 12024-14-5, Gallium telluride (GaTe) 12025-32-0, Germanium sulfide (GeS) 12067-17-3 12136-26-4, Indium oxide (InO) 20859-73-8, Aluminum phosphide (AlP) 25152-52-7 389805-86-1, Indium silver sulfide (InAgS) 389805-87-2, Cadmium germanium phosphide (CdGeP) 389805-89-4, Indium silver silicide (InAgSi) 389805-90-7, Antimony silver sulfide (SbAgS) 389805-91-8, Aluminum copper sulfide (AlCuS)
RL: TEM (Technical or engineered material use); USES (Uses)
(optical disk having super-resolution film containing semiconductor particles)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Anon; JP 05225611 1993
(2) Anon; JP 772567 1995
(3) Asai; US 5474874 A 1995
(4) Ichihara; US 6181650 B1 2001 CAPLUS
(5) Ichihara; US 6187406 B1 2001
(6) Kawanishi; US 5591500 A 1997
(7) Miyake; US 6111822 A 2000 CAPLUS
(8) Nishimura; US 5717662 A 1998
(9) Spruit; US 5153873 A 1992

L7 ANSWER 9 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2001:729883 CAPLUS

DN 135:280613

ED Entered STN: 05 Oct 2001

TI Optical disk having super-resolution film comprising semiconductor particles dispersed in polymer matrix

IN Todori, Kenji; Nagase, Toshihiko; Ichihara, Katsutaro; Kihara, Naoko

PA K. K. Toshiba, Japan

SO Eur. Pat. Appl., 32 pp.
CODEN: EPXXDW

DT Patent

LA English

IC ICM G02F001-355
ICS G02F001-361; G11B007-24

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI	EP 1139161	A1	20011004	EP 2001-302981	20010329
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2001273681	A	20011005	JP 2000-92160	20000329
	TW 501124	B	20020901	TW 2001-90106379	20010319
	US 2001038900	A1	20011108	US 2001-819621	20010329
	US 7081328	B2	20060725		
PRAI	JP 2000-92160	A	20000329		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 1139161	ICM	G02F001-355
	ICS	G02F001-361; G11B007-24
	IPCI	G02F0001-355 [ICM,6]; G02F0001-361 [ICS,6]; G02F0001-35 [ICS,6,C*]; G11B0007-24 [ICS,6]
	IPCR	B82B0001-00 [I,C*]; B82B0001-00 [I,A]; G02F0001-35 [I,C*]; G02F0001-355 [I,A]; G11B0007-24 [I,C*]; G11B0007-24 [I,A]; G11B0007-243 [I,A]; G11B0007-247 [I,A]; G11B0007-251 [I,A]; G11B0007-257 [I,A]
	ECLA	G02F001/355Q; G11B007/24R; G11B007/243; G11B007/247; G11B007/251; G11B007/257
JP 2001273681	IPCI	G11B0007-24 [ICM,7]
	IPCR	B82B0001-00 [I,C*]; B82B0001-00 [I,A]; G02F0001-35 [I,C*]; G02F0001-355 [I,A]; G11B0007-24 [I,C*]; G11B0007-24 [I,A]; G11B0007-243 [I,A]; G11B0007-247 [I,A]; G11B0007-251 [I,A]; G11B0007-257 [I,A]
TW 501124	IPCI	G11B0007-24 [ICM,7]
	IPCR	B82B0001-00 [I,C*]; B82B0001-00 [I,A]; G02F0001-35 [I,C*]; G02F0001-355 [I,A]; G11B0007-24 [I,C*]; G11B0007-24 [I,A]; G11B0007-243 [I,A]; G11B0007-247 [I,A]; G11B0007-251 [I,A]; G11B0007-257 [I,A]
US 2001038900	IPCI	G11B0007-24 [I,A]
	IPCR	G02F0001-35 [I,C*]; G02F0001-355 [I,A]; G11B0007-24 [I,A]; G11B0007-24 [I,C*]; G11B0007-243 [I,A]; G11B0007-247 [I,A]; G11B0007-251 [I,A]; G11B0007-257 [I,A]
	NCL	428/064.400; 369/284.000
	ECLA	G02F001/355Q; G11B007/24R; G11B007/243; G11B007/247; G11B007/251; G11B007/257

AB An optical disk from which recorded data are read out by means of light irradiation has a substrate having recording pits as data on a surface, and stacked films formed on the substrate. The stacked films contain a super-resolution film of a polymer matrix and semiconductor particles having an organic group covalently bonded thereto, and a reflective film. The super-resoln . film and the reflective film are provided in this order from a light incident side. The object of the present invention is to further improve the super-resolution characteristics in a super -resolution film using semiconductor particles so as to increase the recording d. of an optical disk.

ST optical disk superresoln film semiconductor particle polymer matrix; DVD CDR semiconductor particle polymer matrix superresoln film

IT Optical disks
(optical disk having super-resolution film comprising semiconductor particles dispersed in polymer matrix partially bonded covalently to semiconductor particles)

IT 163442-67-9, Starburst 4th Generation
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(dendritic; optical disk having super-resolution film comprising semiconductor particles dispersed in polymer matrix partially bonded covalently to semiconductor

particles)
IT 3385-94-2, Bis(trimethylsilyl) sulfide 4099-46-1, Bis(trimethylsilyl) selenide
RL: NUU (Other use, unclassified); USES (Uses)
(optical disk having super-resolution film comprising semiconductor particles dispersed in polymer matrix partially bonded covalently to semiconductor particles)
IT 919-30-2, Aminopropyltriethoxy-silane 1306-24-7, Cadmium selenide, processes 1306-25-8, Cadmium telluride, processes 1314-98-3, Zinc sulfide, processes 7758-89-6, Copper chloride 9011-14-7, Polymethyl methacrylate 112074-07-4, Cadmium selenide sulfide (CdSe0.4S0.6) 117727-56-7, Cadmium selenide sulfide (CdSe0.9S0.1) 163442-71-5D, Starburst 8th Generation, hydroxy terminated
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(optical disk having super-resolution film comprising semiconductor particles dispersed in polymer matrix partially bonded covalently to semiconductor particles)
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Anon; PATENT ABSTRACTS OF JAPAN 1994, V018(278), PP-1743
(2) Hitachi Ltd; EP 0316909 A 1989 CAPLUS
(3) Hitachi Maxell Ltd; JP 06044609 A 1994
(4) Ibm; EP 0431973 A 1991 CAPLUS
(5) Nakamura, S; US 5824240 A 1998
(6) Nosaka, Y; JOURNAL OF APPLIED POLYMER SCIENCE 1993, V47(10), P1773 CAPLUS
(7) Pioneer Electronic Corp; EP 0580346 A 1994 CAPLUS

L7 ANSWER 10 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2001:103957 CAPLUS
DN 134:274020
ED Entered STN: 12 Feb 2001
TI Ultralarge capacitance-voltage hysteresis and charge retention characteristics in metal oxide semiconductor structure containing nanocrystals deposited by ion-beam-assisted electron beam deposition
AU Kim, Yong; Park, Kyung Hwa; Chung, Tae Hun; Bark, Hong Jun; Yi, Jae-Yel; Choi, Won Chel; Kim, Eun Kyu; Lee, Ju Wook; Lee, Jeong Yong
CS Department of Physics, Dong-A University, Hadan-2-Dong, Sahagu, Pusan, 604-714, S. Korea
SO Applied Physics Letters (2001), 78(7), 934-936
CODEN: APPLAB; ISSN: 0003-6951
PB American Institute of Physics
DT Journal
LA English
CC 76-3 (Electric Phenomena)
AB Amorphous silicon films are deposited by ion-beam-assisted electron beam deposition and subsequently oxidized by a rapid thermal oxidation process. The oxidized film contains a large d. of nanocrystals specifically localized at a certain depth from the Si/SiOx interface, whereas no evidence of nanocrystals is found for oxidized films deposited without ion beam assistance. Such a marked contrast resulted from the enhancement of nucleation rate by ion beam irradiation The metal-oxide-semiconductor structure utilizing the film shows an ultralarge capacitance-voltage hysteresis whose width is over 20 V. In addition capacitance-time measurement shows a characteristic capacitance transient indicating nondispersive carrier relaxation. The retention time shows a dependence on applied bias and the maximum time of .apprx.70 s is obtained near midgap voltage. The retention time dependence on applied bias and large capacitance-voltage hysteresis are attributed to direct tunneling of trapped charges in the deep traps of nanocrystals to the interface states.
ST capacitance voltage hysteresis charge retention MOS structure; ion beam assisted electron beam deposition silicon

IT Vapor deposition process
(electron-beam; ion-beam-assisted electron beam deposition of amorphous Si films and subsequent rapid thermal oxidation process)
IT Ion beams
(ion-beam-assisted electron beam deposition of amorphous Si films and subsequent rapid thermal oxidation process)
IT Oxidation
(thermal; ion-beam-assisted electron beam deposition of amorphous Si films and subsequent rapid thermal oxidation process)
IT Electric capacitance-potential relationship
Electric charge
MOS devices
(ultralarge capacitance-voltage hysteresis and charge retention characteristics in MOS structure)
IT 7440-21-3, Silicon, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(hydrogenated amorphous; ion-beam-assisted electron beam deposition of amorphous Si films and subsequent rapid thermal oxidation process)
RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

(1) Choi, B; Appl Phys Lett 1998, V73, P3129 CAPLUS
(2) Choi, W; Appl Phys Lett 1997, V70, P3014 CAPLUS
(3) Fleetwood, D; Microelectron Reliab 1995, V35, P403
(4) Fujii, M; Jpn J Appl Phys Part 1 1991, V30, P687 CAPLUS
(5) Kim, E; Mater Res Soc Symp Proc 1998, V486, P231 CAPLUS
(6) Kim, I; IEEE Electron Device Lett 1999, V20, P630 CAPLUS
(7) Kobayashi, T; Appl Phys Lett 1997, V71, P1195 CAPLUS
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